

Doubling Net Receipts in Virginia Agriculture:  
A Plan for the Years 2002-2012

*“Planting the Seeds of Tomorrow in Virginia Today”*

Presented  
To

The Honorable Mark R. Warner  
Governor of Virginia

and

The Honorable Michael J. Schewel  
Secretary of Commerce and Trade

Governor’s Agriculture Net Receipts Work Group

Richmond, Virginia

October 2003

Doubling Net Receipts in Virginia Agriculture:

# A Plan for the Years 2002-2012

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March 12, 2004

Ladies and Gentlemen:

It is with pleasure that we post on the VDACS Website the Report of the Governor's Agriculture Net Receipts Work Group. This report represents many months of work by specialists the Governor appointed to help us develop strategies to double net receipts in Virginia Agriculture between now and 2012.

As you will see, the body of the report is divided into five sections: General; Research and Development; Marketing/Economic Development Regulation; Tax Reform Incentives and Credits and Farm Business/Land Preservation. A summary of recommendations in each of these areas is presented at the front of those respective sections.

This report was presented to me, and subsequently to the Governor, in late Fall 2003 and even with a limited time frame and very limited resources, the Governor adopted some of these recommendations for his 2004-2006 Biennium Budget. He is still considering several other recommendations and may take action on them in next year's budget process.

As you review this material, please be aware that it represents recommendations to the Governor, not the Governor's official policy positions. Also, please know that we do not see these recommendations as a final, comprehensive strategy for meeting the Governor's goal. Representatives on the Task Force, the Commissioner of Agriculture and Consumer Services and I are continually looking for new strategies to help build and assure the future

profitability of the Virginia Agriculture sector. In that context, we would all welcome suggestions from readers as to how we might best meet the Governor's goal.

Thank you for your interest in and support of Virginia Agriculture.

Sincerely,

Michael J. Schewel  
Secretary of Commerce and Trade

C: The Honorable J. Carlton Courter, III, Commissioner  
Department of Agriculture and Consumer Services

Members, Governor's Agriculture Net Receipts Work Group

September 29, 2003

The Honorable Mark R. Warner  
Governor of Virginia  
State Capitol

The Honorable Michael J. Schewel  
Secretary of Commerce and Trade  
Ninth Street Office Building, Suite 723  
Richmond, VA 23219

Gentlemen:

It is with pleasure that we transmit to you the report of the Governor's Ag Net Receipts Work Group. After numerous sessions throughout the spring and summer of 2003, the Work Group has concluded that there is no single strategy by which you can achieve your stated objective of doubling net receipts in Virginia agriculture over the next ten years. However, by using a number of strategies in combination, the state can help Virginia agriculture move toward this goal. The strategies recommended in this report are designed to move Virginia agriculture in that direction.

For your convenience, we have grouped the recommendations into six categories: General; Research and Development; Marketing/Economic Development; Regulations, Tax Reforms, Incentives and Credits, and Farm Business/Land Preservation. A summary of the recommendations in each section is presented in the introductory pages at the beginning of each section, with the rationale and detailed explanation of each recommendation presented in detail in the section itself. For your further convenience, we have highlighted, through the use of an asterisk, new recommendations for action which have come out of the Work Group's efforts. We should emphasize, however, that there are many recommendations, which are not classified as new but which are vital to rebuilding and restoring the infrastructure of Virginia agriculture. Some of these recommendations pertaining to ongoing current strategies are at least as high or higher priority than the new ideas which the Group has developed.

We recognize that the recommendations contained in the Report are those of the Work Group and do not necessarily represent your views. We look forward to working with you in answering questions and implementing the ideas of the Ag Net Receipts Work Group as you deem appropriate.

Yours Sincerely,

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John Hardesty  
Co-Chairman  
Ag Net Receipts Work Group

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Bill Tucker  
Co-Chairman  
Ag Net Receipts Work Group

## II. Foreword

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In assuming the Governorship of Virginia, Mark R. Warner made a commitment to support Virginia agriculture. After initial actions, which involved support of international trade missions, several public appearances which were designed to raise the consumer knowledge and appreciation of Virginia agriculture, Governor Mark Warner asked the Secretary of Commerce and Trade, Michael Schewel to devise a strategy to help meet his pledge of doubling net receipts in Virginia agriculture in the next ten years. To help develop this strategy, Secretary Schewel appointed the Governor's Ag Net Receipts Work Group, whose members are listed in Section VI of this report.

The Work Group held a number of meetings and their recommendations are summarized in this document. The Group's general observations about actions which should be taken to support agriculture are presented in the Executive Summary followed by a chapter entitled "Virginia Agriculture and Forestry: The Evolution", which is designed to set the context for developing a plan for doubling net receipts in Virginia agriculture over the years 2002-2012.

The plan itself is presented in section five of the report entitled "A Plan for Doubling Net Receipts: Planting the Seeds of Tomorrow in Virginia Today". Recommendations there are categorized in six categories each of which is preceded by a summary page showing the recommendations related to that category of strategies.

### **III. Executive Summary**



### **III. Executive Summary**

**In the Commonwealth's agriculture and forestry community, history and tradition continue. Challenges are undeniably real and numerous. However, exciting opportunities abound and new horizons beckon. Virginia's agriculture industry is resolute and envisions a profitable future.**

**Doubling agriculture's net receipts is a daunting proposition, but not unachievable. There is no single action or program that will achieve the goal; a long-term strategic approach is needed to enhance the broad and diverse landscape of Virginia's agriculture. The plan must involve an appropriate allocation of resources, an accurate analysis of markets, advocacy by public and private sectors, and embracing advances in science and technology.**

**Such a plan can best be implemented through the office of a Secretary of Agriculture and Forestry. The creation of a new Secretariat would facilitate the growth and viability of this industry, provide a strategic balance of progressive economic development and utilization of natural resources, and position the agriculture and forestry community to be a major contributor to the revitalization of Virginia's rural economy. The Secretary of Agriculture and Forestry will be in a position to champion appropriate statewide policy in each of five areas: Research & Development, Marketing/Economic Development, Regulations, Tax Reform, Incentives & Credits, and Farm Business/Land Preservation.**

Highlights:

- **Research, technology, and discovery of new knowledge are the life-blood of a competitive and profitable agriculture industry.**

With limited state resources, we must look at projects which best leverage other sources of financial support, increase farm receipts, grow farm level profitability, and boost the competitive position of agriculture in the Commonwealth. One exciting example of this type of investment in research is the testing and marketing of a new hull-free barley variety would yield an additional 10 to 15 million bushels within the next few years. An added 10 million bushels at \$2.50 per bushel increases farm receipts by \$25 million. Investment in this project and other new research and development projects would use limited state funding to leverage larger levels of financial support.

- **Marketing and economic development will ensure that Virginia agriculture and forestry is poised to tap into niche markets, exploit its geographic position, promote new high-value products, and take advantage of global opportunities.**

Agriculture and forestry's already substantial contribution to the state's gross product, sales revenues, and employment can be increased through additional marketing efforts and economic development opportunities. Additional resources to stimulate existing marketing programs would significantly increase the sale of Virginia grown products by connecting the producer directly with consumers, distributors, wholesalers, and retailers. As an example, less than \$20,000, the *Savor Virginia* promotion could provide an on-line resource for restaurateurs to locate sources of Virginia products. Also, economic development efforts would be augmented by working with traditional and nontraditional partners, to better position Virginia to secure federal and state resources that would help farmers and foresters target both existing, but underutilized, market opportunities and infrastructure. Support for the creation of innovative entrepreneurial business ventures for high value, value-added and cooperative-like agribusiness opportunities would establish a competitive advantage for Virginia agriculture.

- **Taxation at the State level should be equitable and not place a disproportionate burden on farm and forestry assets. State fiscal policy should also reflect a balance of stewardship of natural resources and public benefit.**

Virginia's current tax system provides two major impediments to the viability of the agriculture and forestry industry -- real property taxes and estate taxes. In addition, there needs to be incentives and funding for environmental regulations and for replenishing the natural resource base. A repeal of Virginia's Death Tax would help to prevent the devastation that family-owned businesses experience when forced to sell land, buildings, or equipment to generate enough capital to pay the tax. Once farm and forests disappear, those rural communities and businesses they support also suffer.

- **Regulatory mandates should be based on need, science, public health, safety and welfare along with practical economic reality and implemented consistently.**

The cumulative impact of federal, state, and local mandated regulations often threaten the economic viability of agriculture and forestry enterprises. Recognizing the extensive regulatory environment in which the agriculture and forestry industry operates, establishing an Ombudsman in the office of the Secretary of Agriculture & Forestry would allow for the resolution of conflicting regulatory issues by mediating disputes between State agencies.

- **The industry's future is threatened by the continued loss of farm and forest land and the challenges facing farm business transition to the next generation.**

A growing population and development patterns drive up the value of farmland, making it too costly to farm. Combined with profitability challenges, the result is that much of Virginia farmland will likely be sold for development, exacerbating the loss of 40,000 acres per year. The State's role in reversing the trend will be the release of a model

state purchase of development rights (PDR) program and the encouraging of localities to develop their own programs. Expanding the existing FarmLink program by only one employee would provide an intensive education campaign for transition planning and general guidance to farm businesses in transition.

Virginia agriculture and forestry is a vigorous economic sector generating over \$60 billion annually to the Commonwealth's economy. To maintain this strength, there must be a significant investment of both human and financial capital in the future. This report outlines many recommendations within the five previously mentioned areas into which this investment needs to be made. In doing so, the Commonwealth will increase the profitability of Virginia's agricultural industry and economy with the targeted goal of doubling net farm receipts within ten years.

#### **IV. Virginia Agriculture and Forestry: The Evolution**

## **IV. Virginia Agriculture and Forestry The Evolution**

### **History**

In 1607 faced with physical obstacles almost beyond comprehension the original colonists at Jamestown set about to create a “New World”. Challenged initially with the very act of survival they had to be flexible enough to adapt to an environment radically different than their expectations or past experiences. They had to meet the basic needs of their internal community and personal safety while struggling with isolation. The world they came from was their only source of virtually all supplies and commerce, intellectual property, health, education, and all the infrastructural needs of a thriving society. All these needs had to be met in the new community.

Along the way the colonists had crop failures to the point of financial ruin and actual starvation. Had they not adopted technologies new to them and raised crops both for food, fiber and trade that were indigenous to the local climate they would not have survived. Coffee and tea which wouldn't grow were replaced by two “new” crops, maize or corn for sustenance and tobacco for income. Utilizing the local forest as a source of shelter, fuel, and eventually building products created a more comfortable living space and the realization of the dream to be able to establish a new life long term in the new world.

As word of the quality of the products being yielded from the rich natural resources of the new world spread to Europe the demand drove an upstart colony into a thriving economy. Commerce flowed smoothly across the Atlantic with many new businesses being established to adapt to the changing needs of a growing population.

Even 400 years later agriculture and forestry are still vital components to a healthy Virginia economy. The key to that vitality long term lies in those lessons so well learned by the Jamestown founders. Their ability to cultivate new opportunities within the natural resources set before them by adopting new technologies and developing new products to meet a changing demand was the key to their success. The remarkable thing was they did so in an environment radically different from the breadth of their past experience. Their ability to embrace change was the first paradigm shift of the new American economy

### **Today**

Today's Virginia agriculture and forestry industry has grown to be a huge part of the state's economy. Each year, countless Virginians and tourists enjoy the pastoral beauty and bounties of Virginia's treasured farmlands. As of June 1, 1997, there were 47,000 farms in Virginia and 8.5 million acres of farmland. Today, however, agriculture in the Commonwealth has evolved beyond the traditional farm-based definition into a diverse and sizable agricultural system.

This system encompasses production, processing and distribution industries, as well as many other agribusinesses. Further, Virginia's agricultural system is a global player. A variety of agricultural products grown and produced in Virginia, among them seafood, livestock, poultry and processed foods, supply high-demand commodities and value-added products to markets overseas. And computers, satellites, and modern farming practices have created an agricultural economic system that did not exist decades ago.

Through research conducted in 1997, the total economic impact of Virginia's agricultural system on the state's gross product, sales revenues and employment were measured for the period 1991-1996. The results are summarized in the Impact Summary for Virginia Agriculture below. The Virginia Department of Forestry conducted a similar study reflecting the economic value of forestry to Virginia's economy (see Impact Summary for Forestry).

### **Total Economic Impact The Virginia Agriculture Industry (1997 data)**

	Total (direct and Induced)
Sales	\$35.9 billion
Contribution to Gross State Product (GSP)	\$19.5 billion
Employment	388,000

(Source: "Virginia Agriculture Economic Contributions & Impact",  
VDACS-May, 1998)

### **Impact Summary: The Virginia Forestry Industry (1997 data)**

	Total (direct and Induced)
Management sale harvesting and processing of forest products	25.4 billion
Employment	248,000

(Source: "Our Commonwealth", Virginia Department of Forestry,  
August 2002)

## Farm Net Income Trends

Though these figures show that Virginia agriculture and forestry are, indeed, important components of the state's economy much of the vigor reflected in these aggregate figures is absent at the farm level. As shown below, net receipts at the farm level have been stagnant over the past ten years.

Net Farm Income 1992 – 2002 \*

<u>Year</u>	<u>Net Farm Income</u>	<u>Average Income / Farm</u>
1992	\$570,100,000	\$12,669
1993	\$522,688,000	\$10,667
1994	\$663,356,000	\$13,538
1995	\$567,964,000	\$11,591
1996	\$596,782,000	\$12,179
1997	\$481,124,000	\$ 9,819
1998	\$494,150,000	\$10,085
1999	\$442,437,000	\$ 9,029
2000	\$729,403,000	\$14,886
2001	\$676,721,000	\$13,811
2002	\$509,151,000	\$10,391

*\* 1998 – 2002 numbers were recently revised by USDA Agricultural Statistics Service and are included in the 2002 Virginia Agricultural Statistics Bulletin.*

Considering the fact that these net farm values do not account for inflation and cost of living increases, one could easily argue that net farm income has actually been declining over time. Coupled with this economic picture is the ever increasing globalization of markets, with intense competition in commodity markets being driven by large foreign agricultural firms with an inherent advantage in lower cost of production. The recent changes in federal crop support programs, essentially replacing subsidy provisions with free market oriented programs further threaten Virginia 's traditional farm system.

**These net farm income values will be used as a baseline for the Doubling Net Receipts in this Report since they represent net income from agricultural production (including forestry) and processing at the farm level. It is important to note, as indicated in the Total Economic Impact discussion above, that the farm level represents only one segment of the overall agricultural economic system, though it is essentially the critical foundation to the entire system.**

Economic enhancement of Virginia's Agriculture and Forestry sectors will require a significant institutional investment of both human and financial capital in these sectors in

the future. This report recommends five specific areas into which this investment needs to be made.

## **Challenges**

Virginia agriculture and forestry enterprises are efficient and cost conscious, yet many are making insufficient profits to invest back into their operations. Various factors can contribute to this situation, many beyond the control of domestic agricultural and forest product producers.

- **Change.** Farmers and forest landowners in Virginia and the United States are operating in an atmosphere of overwhelming change. Producers can no longer concern themselves with simply the weather, prices and machinery. Globalization, business consolidation, biotechnology, food safety, environmental regulations, farm policy, trade policy, bio-security, consumer preferences, and market demands are all elements that must be considered with every decision.
- **Net Income.** Farm commodity prices are being pushed down by surges in global production. Each commodity producer is too small to influence the market and cannot raise selling prices to ensure costs are covered. Net farm incomes in Virginia have been in the \$500 to \$700 million range since 1990 with average income varying from \$10,000 to \$13,000 per farm. If adjusted for inflation, the trend in income levels is down. The facts show that machinery, fertilizer, seed, and fuel costs go up with price inflation, but the selling prices of corn, milk, cotton, and tomatoes do not. Farm families throughout the Commonwealth face the risk of income levels too low to sustain their family operations.

Niche markets are helping in some areas and sectors like nursery/greenhouse are benefiting from proximity to the population centers of the Mid-Atlantic and Northeastern states. Fruits, vegetables, berries and nuts show promise of profitability in areas around population centers. But the big need is for higher profits from the millions of acres in globally grown commodities such as corn, wheat, cotton, and soybeans.

- **Cost of Stewardship.** More than 20 million acres of land in Virginia are held by farmers and forest landowners. These lands are responsible for the production of thousands of food and fiber products people use every day. Maintaining those acres places a huge stewardship responsibility on landowners in the face of narrow margins and large short term opportunity cost. In addition, the non-agricultural population has little appreciation for the costs farmers incur in farm operation and stewardship of the land. All costs of stewardship are passed on to the landowner, by default, as some intrinsic “responsibility” of ownership without regard for the broad societal benefit.
- **Human and Capital Assets.** The future viability of the Virginia agriculture sector will also depend on the success of efforts to 1) preserve farm and forest lands, 2) transition agricultural businesses from the current generation of aging farmers to a new generation of farmers, 3) create an economic environment that provides incentive for long-term investment in agriculture and forestry infrastructure and



stimulates a trained, productive workforce, and 4) provide investment capital and operating capital for small companies with emerging ideas.

- **Declining Resources for Research and Development.** Investments in research and in the extension of the results of scientific discovery to producers are vital. The agriculture and forestry industry is dependent upon research for traditional food and fiber production, advancements in biotechnology for crops and livestock, food safety, human health, animal disease, and environmental protection. In addition to a safe and healthy food supply, research addresses the sustainability of our land and water, rural economic development, and marketing in the global economy. The importance of state and federal support is evidenced by studies that demonstrate the return to investment in research and extension is 48 percent for agricultural research and almost 63 percent for extension.
- **Conflicting Policy.** The blurred line between on-farm production and further processing creates its own set of challenges in state and local regulation of the industry, often creating inconsistency. This includes zoning, building code restrictions, water usage, and taxation. In addition, farmers and foresters confront rejection of changes to their operations by neighbors who object based solely on a nostalgic perspective.
- **Weather.** An uncontrollable challenge is Mother Nature, particularly precipitation. Annual rainfall amounts were lower than normal in 2001 and 2002, significantly reducing crop yield per acre in affected areas across the state. In 2003 crop yields and values have been reduced by far too much rain.
- **Disease.** The most recent example of a disease outbreak occurred in early 2002 when a low pathogenic Avian Influenza virus struck Virginia poultry flocks. As a result, millions of birds in these flocks had to be de-populated, poultry rearing facilities had to remain vacant while they were sanitized, and Virginia became subject to international bans on export of poultry, all of which caused significant losses in income to both farmers and poultry processors.
- **Federal Farm Policy.** In 1995, Federal farm programs became more market-oriented, but yet have failed to provide all the necessary tools to assist America's food producers in this transition. In the latest Farm bill, farm operators also had to cope with major adverse changes in federal programs, such as the peanut quota buyout. This was done without providing the means to manage such an evolution.
- **Litigation.** Certain sectors of the industry (i.e., tobacco, food) are under siege by individuals viewed as not taking responsibility for their own choices. Virginia's tobacco sector has been the first to deal with the ramifications of such litigation.
- **Agri-Terrorism/Bio-Terrorism.** The agriculture and forestry industry is susceptible to intentional acts of terrorism in the form of disease introduction, food supply contamination and interruption as well as destruction of critical research.

## **Confronting the Challenges: Farmers' Strategies**

Virginia's farm and forestry community has responded to these challenges with a number of strategies that will lead to further opportunities, such as:

- Small specialized farming operations have developed around major metropolitan areas to supply fresh vegetables, flowers and other products to those markets.
- Producers of commodities appear to be expanding operations to take advantage of economies of scale by farming large tracts of land.
- Many entrepreneurs in the industry are developing strategies for adding value to product through marketing innovations, processing of product, and genetic adaptation of products.
- Farmers are also showing an increased interest in new age cooperative (whereby farmers own the processing facilities to which they will direct their output), in the development of new crops and new products, and in the development of new enterprises, such as agri-tourism.
- Food processing is very much alive among small entrepreneurs who are turning out products ranging from barbecue sauces to desserts to wines.
- Farmers in partnership with State agencies are beginning to make use of provisions of the Farm Security and Rural Investment Act of 2002 for the development of value-added products and programs that will develop a safety net for some sectors .

While it is changing, Virginia's agriculture sector remains a dynamic force contributing to the total economic growth of the Commonwealth. Embracing change was the key to our settler's success and is the key to Virginia's agriculture and forestry's future.

**V. A Plan for Doubling Net Receipts: *“Planting the Seeds of Tomorrow in Virginia Today”***

## V. A Plan for Doubling Net Receipts: *“Planting the Seeds of Tomorrow in Virginia Today”*

### **Introduction and Methodology:**

Confronted with these realities and with the mission assigned it by the Governor, the Work Group surveyed more than three hundred agricultural and forestry organizations and individuals. Approximately 149 organizations and individuals responded to those surveys.

After considerable analysis through a number of meetings, the Work Group classified the primary concerns of the industry into five broad areas: Research and Development; Marketing and Economic Development; Regulation; Taxation; and Preservation of Farm and Forestlands/Facilitating Farm Transition. In addition to these five specific areas, there were two broad concerns of the industry which the Work Group classified as “General” in making their recommendations.

In the paragraphs that follow, the mission of the Work Group is restated after which recommendations for action are presented in each of the six categories. Details are also presented for each recommendation and for the approximate dollar/FTE cost of each of these recommendations.

### **Mission Statement:**

To increase the profitability of Virginia’s agricultural industry and economy, with the targeted goal of doubling net farm receipts within ten years.

## A. General Recommendations

## **Summary of Recommendations**

- A.1 Establish and appoint a Secretary of Agriculture and Forestry
- \*A.2 Create a “Governor’s Agriculture & Forestry Action Team”

## **A.1 Establish and appoint a Secretary of Agriculture and Forestry**

The combination of agriculture and forestry is Virginia's number one industry -- contributing more than \$47 billion to the economy annually and over fifteen percent of total jobs. However, the Commonwealth is one of only five states that does not have an executive level position for agriculture and forestry that answers directly to the Governor.

The creation of a new Secretary of Agriculture and Forestry will facilitate the growth and viability of this industry, provide a strategic balance of progressive economic development and utilization of natural resources, and position the agriculture and forestry community to be a major contributor to the revitalization of Virginia's rural economy.

The Secretary of Agriculture and Forestry will be in a position to champion appropriate statewide policy, promotion of agriculture and forest products both domestically and globally, preservation of the business of farming and forestry, support and recognition of farmers and foresters environmental stewardship, programs for protection against disease and terrorism, and funding for critical research, technology, teaching, and outreach.

All of Virginia's major agricultural and forestry organizations and companies support the creation of a Secretary of Agriculture and Forestry. Support has also been expressed by the Governor, the 2003 General Assembly, and the Virginia Rural Prosperity Commission. The industry proposes that the Secretariat include the Department of Agriculture & Consumer Services, the Department of Forestry, the Virginia Agricultural Council, the Marine Products Board, and the Virginia Tobacco Indemnification & Revitalization Commission.

Resources Required – Range of \$125,000 - \$500,000

Performance Measures – Creation of position. (*Legislation required*)

## **\*A.2 Create a “Governor’s Agriculture & Forestry Action Team”**

The Agriculture and Forestry Action Team would include all members of state government who have any responsibility for the agriculture & forestry industry: Secretary of Agriculture & Forestry, Secretary of Commerce & Trade, Secretary of Education, Secretary of Natural Resources, Commissioner of Agriculture & Consumer Services, State Forester, Virginia Tech President, VSU President, VSU Dean of Agriculture, Virginia Tech Deans of College of Agriculture & Life Sciences and College of Natural Resources, and Congressional liaison representative. Team would meet periodically to develop, discuss, and/or implement plans/programs for the benefit of agriculture and forestry in Virginia – many as recommended in this Report.

Resources Required – None

Performance Measures – “Team” created; Report recommendations implemented across State government.



## B. RESEARCH AND DEVELOPMENT

## Summary of Recommendations

- \*B.1 Fund research on projects representative of new agricultural product opportunities such as:
  - B.1.a Development of Hulless Barley as a High-Quality Feed Source for Swine and Poultry
  - B.1.b Development of High-value Soybeans with Enhanced Nutritional Value and Health- related Compounds in Soybean Feeds and Foods
  - B.1.c Development of High-Value Wheat with Specialized Traits and Enhanced Marketability
  - B.1.d Development of High-Value Soybeans with Enhanced Nutritional Value and Health-Related Compounds
  - B.1.e Production of Antioxidant Enriched Foods: Agricultural and Health Benefits for the Commonwealth of Virginia
  - B.1.f Production of Sustainable High-Yield Clonal Forest Crops
  - B.1.g Production of high-value Soybean and Corn for animal feed through Metabolic Engineering
  - B.1.h Using Genomics to Improve Disease Resistance, Flavor, and Health Benefits of the Strawberry Plant for Virginia through Genomics
  - B.1.i Developing infrastructure focused on competitive manufacturing and profitability for the forest products industry in Virginia
  - B.1.j Expand the Use of Adapted Small Ruminant Breeds for Organic, Low-Fat Meat Production
- B.2 Restore funding for critical staff and programs in Virginia Cooperative Extension and in the Agricultural Experiment Stations.
- \*B.3 Fund through Federal dollars (Homeland Security or other) and implement the “State-of-the-Art Emergency Management Response IT Network for Virginia”.

## Investments in Research and Development in Virginia Agriculture and Forestry to Boost Farm Receipts and Farm Profitability

### The Issue

Investments in research and development are important to the viability and profitability of Virginia's agricultural and forestry sectors. New knowledge and new discovery are essential to efficient production, processing, and distribution of food and fiber producers. Investments in research and in the extension of the results of scientific discovery to producers were overwhelmingly supported in a survey of Virginia farm, forestry, and fisheries and wildlife groups. An extensive review of the literature by Alston et al estimated median returns to investments in research and extension at 48.0 percent for agricultural research, 62.9 percent for extension, and 37.0 percent for studies that estimated the returns to research and extension jointly.<sup>1</sup>

Technology and discovery of new knowledge have long been the life blood of competitive agricultural activity. Farm receipts in the Commonwealth have ranged from \$2.115 billion in 1991 to \$2.444 billion in 2001. Farm receipts measure the revenue side of the farmer's profit picture. It is not impossible to increase farm level profitability without increases in receipts, but profit increases based strictly on cost reductions are difficult to achieve and virtually impossible to sustain.

Year	Farm Receipts (billion \$)
1991	2.115
1992	2.140
1993	2.122
1994	2.191
1995	2.228
1996	2.390
1997	2.406
1998	2.323
1999	2.278
2000	2.285
2001	2.444

If adjusted for price inflation, the trend in Virginia's farm receipts is down. Using the Consumer Price Index as a measure of price inflation and rescaling so that 1991 becomes the base year with an index value of 100, the 2001 farm receipts in 1991 dollars are \$1.627 billion. The decrease in inflation adjusted farm receipts is a measure of the cost-price squeeze facing farmers. Input costs go up with price inflation but selling prices in a global commodity market do not necessarily increase with price inflation. The pressure to adopt cost-reducing technology is intense and the need for increases in receipts or revenue is apparent if competitiveness and profitability are to be maintained.

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<sup>1</sup> Alston, J., C. Chan-Kang, M. Marra, P. Pardey, and T. Wyatt. 2000. *A Meta-Analysis of Rates of Return to Agricultural R&D*, International Food Policy Research Institute.

Increasing and improving the competitiveness and profitability of Virginia's agricultural and forestry sectors will require investments in research and extension and development of new high tech and high value products. New knowledge and new products generate positive trends.

### **Contributing to the Goal**

The goal is to increase farm receipts and to enhance profitability and the long term viability of Virginia Agriculture. Focusing on research/extension activities that have a high probability of (1) contributing to enhanced receipts in the short run, and (2) establishing a base of science and technology on which the future of the agricultural and forestry sectors can build, selected projects have been identified. The detailed criteria employed in the selections included:

- There must be a significant base of research and development in place with prior expenditures from state, federal, private sector contracts, and government agency contracts on which to build.
- Accumulated science-based knowledge and technology must be in place and at a level that suggests a "springboard" of possible returns from new investments in research and development within the next 2 to 3 years.
- There must be a critical mass of scientists in place to justify the projects selected and to both generate short-run gains in receipts and build a sustainable base for larger payoffs in the future. It takes many years for research scientists to develop to a level of recognition that attracts grants and contracts from private and public sources. Investments by the Commonwealth in the ongoing programs of recognized scientists will both yield short-run benefits and will leverage grants and contracts and funding support from non-state sources over time.
- Emphasis should be on development and introduction of high-value plant and animal based products, with the increased market values coming from quality control, product safety assurances, being consumer driven and from newly developed traits such as improved nutrition and contributions to good health. This requisite is especially important since it can be shown that increasing production of low value commodity products at the national level can decrease total farm receipts for those commodities.

### **Recommendations**

Investments in research and development are important to the goal of increased farm receipts. The need for expanded investments in, and support of, research and extension education programs was a major theme in the responses from the statewide survey. This section describes briefly a number of projects from various colleges or university wide programs at Virginia Tech and Virginia State. The projects are presented in order of importance as established by deliberations of the Working Group. Detail is shown for each on recommended budget levels, duration of the budget commitment, and the recipient of funding support in terms of department, college, or university programs at the Land Grant Universities.

The projects recommended for funding have been selected at least partly for their potential to use limited state funding to leverage larger levels of financial support in terms of National Science Foundation, U. S. Department of Agriculture, National Institutes of Health and other public agency and foundation grants and in contracts from private technology, biotechnology, and food companies. Over time, there is the expectation that a large pool of funds will develop to support current and future projects and programs that will help increase farm receipts, increase farm level profitability, and boost the competitive position of agricultural and forestry activities in the Commonwealth. The Ag Receipts Working Group suggests that the

administrators of the projects and programs being recommended for funding at Virginia Tech and Virginia State Universities set up a special accounting program that (1) monitors the impact on farm receipts, (2) documents the public and private grants and contracts that are received in the future that can be attributed solely or primarily to the Governor's initiative on farm receipts, and (3) reports annually across the period fiscal years 2002 through 2012 to the agriculture committees in the state House and Senate and to the Secretary of Agriculture and Forestry.

The recommended projects were selected based on (1) projects that are unique to the efforts of the Ag Receipts Working Group and which were developed to meet specific goals of short run and long run contributions to farm receipts, (2) research areas with a significant body of science in place so that impacts on receipts from funding the listed projects can start occurring within the next 2 to 3 years, (3) areas where the use of emerging high tech procedures in genetic selection will generate high-value foodstuffs that are focused on improving nutrition and preventing chronic disease or improving quality and consistency in wood products, and (4) project areas that have the potential to leverage significant funding from national agencies such as the USDA, National Science Foundation, National Institutes of Health so that the funding of the projects will leverage contract and grant funds. Once launched and sustained, the research areas can shift commodity emphasis over time as appropriate to meet changing needs and opportunities and programs like Food, Nutrition, and Health at Virginia Tech or similar programs at Virginia State will continue over time to apply cutting edge technology in the development and introduction of high value foodstuffs and other programs will continue to look for and develop high value alternatives in the wood and fiber sectors. The increased market values that will result from these recommended research projects and related outreach and extension programs to get the technology into farmers' hands will allow some Virginia farmers to start to move out of the low price and globally competitive commodity agriculture and into the production of high value or value added alternatives, significantly boosting farm receipts and profitability.

## Budgets

### Research Projects Ranked in Order of Importance and Expected Contribution

Project	Rank	Budget	Budget to
New Hulless Barley	1	\$100,000 per year, 3 years*	Virginia Tech
High-Value Soybeans	2	\$250,000 per year, permanent increment in state budget**	Virginia Tech
High-Value Wheat	3	\$250,000 per year, permanent increment in state budget**	Virginia Tech
Vegetable Soybeans	4	\$250,000 per year, permanent increment in state budget**	Virginia State
High-Value Feedstuffs and Antioxidant Enriched Meats	5	\$250,000 per year, permanent increment in state budget**	Virginia Tech
Clonal Forestry	6	\$250,000 per year, permanent increment in state budget**	Virginia Tech
Enhanced Feedstuffs, High-Value Poultry	7	\$250,000 per year, permanent increment in state budget**	Virginia Tech
Strawberries, Small Fruits	8	\$250,000 per year, permanent increment in state budget**	Virginia Tech
Forest Products	9	\$100,000 per year, 3 years*	Virginia Tech
Small Animal Ruminants	10	\$100,000 per year, 3 years*	Virginia State

**Total Annual Budget    \$2.05 million**

\*For fiscal years 2005, 2006, 2007.

\*\*A one-time \$250,000 increment in the state budget to the institution involved that will stay in the state budget in future years with no specific ending period. Such a budget commitment is seen as necessary to allow the longer term planning and personnel decisions in these high-tech projects. The base budgeting will allow program stability and permit leveraging of a targeted \$10 from public and private grants and contracts for each \$1 in state support.

**\*B.1 Fund research on projects representative of new agricultural product opportunities such as:**

**B.1.a Development of Hulless Barley as a High-Quality Feed Source for Swine and Poultry**

Dr. Carl Griffey  
Professor of Plant Breeding  
Department of Crop and Soil Environmental Sciences  
Virginia Tech

The Project

A new variety of hull-free barley was released in Spring, 2003. The new variety compares favorably with corn as a feed grain and can be grown at lower cost. Extension of the germplasm lines will bring lower beta-glucans (for animals), higher beta-glucans (for humans) and lines with low phytic acid (which decrease phosphorus in animal and poultry waste). At this time, a primary thrust of the program is to do the testing, field trials, feed value measures and the related needs to get producers and feed grain users involved in helping develop a marketing infrastructure and a pricing and price discovery system.

The Potential

Hulled barley has not been a significant contributor to farm receipts. Acreage has trended down to 50,000 harvested acres in 2001 with production at 3.750 million bushels. Average price in 2001 in Virginia was \$1.25 per bushel, 60% of the corn price for the year. With declines in corn acreage since the early 1980s, use of feed grains by beef, swine, dairy, poultry, and equine exceeded in-state production of corn by 49.087 million bushels in 1997 ("Corn and Soybean Consumption and Production in Virginia," Huffman and Kenyon, REAP, March 1999, [www.reap.vt.edu](http://www.reap.vt.edu)). Corn users are paying at least \$.35 per bushel rail costs to destinations like Harrisonburg, putting the poultry industry in the state (which provides over 30% of farm receipts) at risk. Major increases in barley acreage are likely with the new variety and increases of 10 to 15 million bushels within the next few years are probable. An added 10 million bushels at \$2.50 per bushel increases farm receipts by \$25 million. Over time, the increase in production could reach 20 to 25 million bushels, providing a new opportunity for grain producers and protecting the competitive positions of Virginia's poultry, swine, and dairy sectors.

The Budget

\$100,000 per year for the fiscal years 2005, 2006, and 2007.

Confirming Importance

The project will provide a more viable and more valuable winter grown feed grain that competes effectively with corn and does not have the weather and yield variability that plagues corn. Corn acreage for grain has declined from a high of 550,000 acres in 1985 to as low as 280,000 acres in 1999, and the Commonwealth is producing about 50 million fewer bushels of corn than is

needed in the state for poultry, dairy, and swine programs. The successful introduction of the newly developed hull-free barley will help protect the long run viability of the grain using sectors in the state such as poultry by reducing the feed grain costs compared to importing from the Midwest at a cost of \$.50 per bushel or more in transportation and handling costs.



### **B.1.b Development of High-value Soybeans with Enhanced Nutritional Value and Health-related Compounds in Soybean Feeds and Foods**

Dr. M.A. Saghai-Marooof  
Professor of Plant Genomics  
Dept. of Crop and Soil Environmental  
Sciences  
Virginia Tech

Dr. Glenn Buss, Retired  
Emeritus Professor of Soybean Breeding  
Dept. of Crop and Soil Environmental  
Sciences  
Virginia Tech

#### The Project

The program will build on the established base and generate genetic lines in soybeans to produce high-value feeds and high-value foods for human consumption. A world class scientist is in place (a second is retiring) and the need is for stable funding to extend the scope and range of the developed and developing science in this area. Widely recognized as a food with antioxidant properties and attributes that build the immune system and block chronic diseases, the secondary contribution of genetic control of phytic acid in poultry and livestock feeds is very important. The Virginia Tech scientists have developed genetic lines that are not available anywhere else in the world and are poised to bring these high-value developments to Virginia producers with patent protected product attributes to increase prices and receipts.

#### The Potential

There is major potential to increase receipts. Acreage harvested in 2001 was 480,000 and production was around 17.28 million bushels. Large farms in the state that financially supported the scientific development of new soybean varieties with unique oil quality have exclusive rights to genetic lines that sell for as much as \$2.00 to \$4.00 per bushel above the \$5.00 price of commodity soybeans, and \$1.00-per-bushel premiums are now widespread through the Southeast from earlier Virginia Tech varieties. New varieties, when released, are adopted quickly and Virginia soybean producers could see increases in receipts of \$20 to \$30 million and the competitive position of the important poultry sector will be protected. Receipts to poultry have been around \$700 million in recent years, and this project will help keep the poultry sector in the state.

#### The Budget

A continuing state budget will be essential with the annual increment going into the permanent state budget on the Food, Nutrition, and Health budget line at Virginia Tech. This program has huge potential but must have at least a minimal funding base that is stable across the years. The budget request is for a one-time permanent \$250,000 increase in base state funding per year to the Food, Nutrition, and Health program at Virginia Tech starting in 2005 with the \$250,000 then staying in the budget in subsequent years at the same \$250,000 level.

#### Confirming Importance

The soybean is the most widely grown field crop in the state and is second only to tobacco in cash receipts. It has the potential for acreage to move above 500,000 acres and more importantly, have increased values of up to several dollars per bushel on the current commodity price of about \$5.00 per bushel in the forms of both enhanced feedstuffs for the poultry and meats sectors of the state and in human consumption where it has multiple potentials to contribute to nutrition and to help block chronic diseases.

### **B.1.c Development of High-Value Wheat with Specialized Traits and Enhanced Marketability**

Dr. Carl Griffey  
Professor of Plant Breeding  
Department of Crop and Soil Environmental  
Sciences  
Virginia Tech

Dr. M.A. Saghai-Maroo  
Professor of Plant Genomics  
Department of Crop and Soil Environmental  
Sciences  
Virginia Tech

#### The Project

The program is boosting value by developing genetic lines that have superior milling qualities and offer two major contributions to nutrition and health. A Virginia Tech line (Renwood 326) is being released during 2003 that offers high gluten content (an important nutritional characteristic) without the baking and appearance problems of past soft wheat varieties. A Virginia Tech line (Madison) has demonstrated antioxidant properties that block tumors and help prevent cancers. The scientists are just beginning to explore the possibilities coming with insertion of high-value traits into wheat and other small grains.

#### The Potential

There is major growth potential. Existing Virginia based flour mills buy most of their wheat for processing from out-of-state sources. Harvested acreage dipped below 200,000 acres in 2001 to 170,000 and cash receipts dropped to \$23.46 million as low prices for commodity wheat pressured farmers. Yields have increased significantly across recent years as Virginia Tech and Virginia State mounted a coordinated program of research and extension to get new technology to the producers. There is an existing processor demand that is not being met from Virginia. Per-bushel prices could increase by 20-40% or more if research to generate high-value traits based on contributions to nutrition and health can be continued and expanded. The varieties will be potential sources of major increases in value and exclusive access by Virginia producers will be at least partly protected by patented new varieties with royalties coming back into the university to support further work.

#### The Budget

A continuing budget in the Food, Nutrition, and Health line item will be essential. This is an ongoing program that has reached world-class status and is poised to attract major outside grants (NSF, NIH) and contracts from the private sector, but the stable base of state funding will be the "clincher" that boosts this program, allows technicians and scientists to be brought into the program and helps the program take major steps forward. The request is for a one-time permanent \$250,000 per year increase in the state budget to Virginia Tech going to the Food, Nutrition, and Health program starting in fiscal year 2005.

#### Confirming Importance

High-value wheat genetic lines have broad potential with added market value due to superior processing attributes and, with importance growing rapidly, to contribute to nutrition targets and support good health, especially in production of antioxidants.

#### **B.1.d Development of High-Value Soybeans with Enhanced Nutritional Value and Health-Related Compounds**

Tadesse Mebrahtu, Soybean Breeding, Virginia State University

##### The Proposal

Research efforts at Virginia State University (VSU) are targeted at seeking solutions to the food and agricultural problems of rural populations taking into consideration the national guideline of food safety. The VSU Soybean Breeding Program is focused on increasing agricultural diversification opportunities for farmers in Virginia through the use of new alternative crops that have market demand, of which the most promising is vegetable soybean. The proposed project is to develop a vegetable soybean with high yield potential and desirable nutritional values that can increase the income bases of small farmers and if promoted successfully could give Virginia farmers a competitive edge in the world's green soybean market. In addition, growing vegetable soybeans domestically will provide fresh produce to consumers.

##### The Potential

Farmers in Virginia are facing a serious economic crisis due to stiff competition from overseas where production cost is lower and, in some cases, American products cannot penetrate overseas markets due to protectionist policies of some countries. As a result, most of the farm operations are not profitable due to the extremely low commodity prices and some producers may not even have enough cash flow to maintain their operations. The economic problem is more pronounced among farmers with a monoculture cropping system. Throughout the mid-Atlantic and Southern states, the demand for tobacco has fallen drastically as the campaign to reduce smoking becomes aggressive. The federal government continues to cut tobacco quotas, forcing some small farmers out of business due to the substantial reduction of their income.

Although soybean is one of the most important cash crops in the world, in the United States, most of the soybeans are processed for animal feed and vegetable oil and only a limited amount is used for human consumption. Vegetable soybean is one of the potential crops that can bring economic benefits to the farmers. Unlike the dry soybeans, vegetable soybeans have a pleasing aroma, sweet flavor and firm texture. The beans are harvested when the pods are green and sold in the pod or shelled seeds as fresh or frozen.

##### The Budget

A one-time \$250,000 increment in the state budget starting in fiscal 2005 and continuing. This stable state level budget support will be needed to support continued developments of this type in the labs of Virginia State scientists and to allow the base needed to leverage funding to much higher levels from national organizations like USDA, NSF, and NIH.

##### Confirm Importance

Vegetable soybean (also referred to as garden soybean) is imported in the United States to meet demand for Asian specialty food products. This specialty market has been expanding due to an increasing number of health-conscious individuals. It is estimated that over the next few years, the U.S. market for vegetable soybean will reach 30 million pounds per annum (<http://www.swagproducers.com/articles/article2.htm>). The priorities research of the Maryland Soybean Board in 2002 include utilization of edible soybeans and other potential market usages or avenues (Romano, L. Laura, HortScience: Vol. 8(3), 2003). The U. S. produces more soybeans than all other soybean-producing countries combined; yet it cannot meet the growing internal demand of vegetable soybean. In 2001, the U.S. imported 10,000 tons of frozen edamame, and it is predicted to reach 25,000 tons by 2005 (Lin 2001, Vegetable Soybean Conf. Wash. Pullman, p.93-

96). There is also an increase in the international trade of green soybean which is focused on supplying Japan where total demand of approximately 160,000 tons per year. There is an upward trend for quality soybean cultivars in the niche market and Virginia farmers will require superior cultivars to compete in the world market.

**B.1.e      Production of Antioxidant Enriched Foods: Agricultural and Health Benefits for the Commonwealth of Virginia**

Dr. Steven Craig, Assoc. Professor, Fish Nutrition, Dept. of Large Animal Clinical Sciences, Virginia Tech

Dr. Korinn Saker, Asst. Professor, Clinical Nutrition/Nutritional Immunology, Dept. of Large Animal Clinical Sciences, Virginia Tech

Dr. Michael Houston, Professor, Nutrition/Biochemistry, Dept. of Human Nutrition, Foods, and Exercise, Virginia Tech

Dr. William (Terry) Swecker, Assoc. Professor, Clinical Nutrition, Dept. of Large Animal Clinical Sciences, Virginia Tech

Dr. Janet Rankin, Professor, Nutrition/Exercise Dept. of Human Nutrition, Foods, and Exercise, Virginia Tech

Dr. Craig Thatcher, Professor, Clinical Nutrition Dept. of Large Animal Clinical Sciences Virginia Tech

The Project

A forward looking proposal, the objective is to enhance value in feedstuffs, both forage and feed grains, that can then deliver high-value animal products. Growth promoting agents have been used directly in feed rations and on forages and pastures to reverse cell damage in animals and increase antioxidant status of meat. Enhanced meats (fish, poultry, beef, and pork) have a potentially higher market value because they boost the immune system and reverse oxidative stress which is associated with cancer, cardiovascular diseases, diabetes and obesity. The base of science needed to launch a program to develop and produce antioxidant enriched meats is in place, and there are exciting advances in the quality of forage feeds (hay and pasture) which could help forage-based beef production systems.

The Potential

Impacts on receipts could be very significant. Beef cattle inventories are 1.5 million head with \$349.75 million in receipts in 2001. The feasibility of a high-value market based on enhanced meat values is, in mid-2003, excellent given developments in national Country of Origin Labeling legislation and the demands for individual animal identification coming from the BSE concerns and national food security initiatives. Swine inventories in the state are 425,000 head and the same value enhancement potential is present for pork. Some 271.5 million broilers and 24 million turkeys are produced in the state with receipts around \$725 million in recent years. The lamb sector would be helped. By way of illustration, an added \$50 per head on cattle sold yearly in Virginia would boost farm receipts by \$30 million, and premiums of up to \$50 per head are being paid based solely on the genetic potential for tenderness.

The Budget

A stable budget would be needed. To “tool up” to expand the scope and thrust of existing programs requires funding security in the form of a permanent one-time increment of \$250,000 starting in fiscal year 2005 to the Food, Nutrition, and Health program at Virginia Tech. Leveraging funds from the NSF, the NIH, and the private sector are virtually a sure thing in this area, but all such grant and contract opportunities will require that a base has been established in the research community and that the state has demonstrated a commitment.

#### Confirming Importance

This project has the potential to significantly increase the values of both feed grains and the meats produced from Virginia programs. With increased interest in the state in forage based production programs, the output from this program will bit the emerging needs of higher value and more efficient feed grain, hay, and pasture resources to support high value meats that can make a science based claim of contribution to good health.

### **B.1.f Production of Sustainable High-Yield Clonal Forest Crops**

Dr. Shepard M. Zedaker, Professor of  
Silviculture, Dept. of Forestry  
Virginia Tech

Hon. & Mrs. Shelton H. Short, Jr., Professor  
of Forestry  
Dept. of Forestry, Virginia Tech

Dr. Eric P. Beers, Assoc. Professor of  
Molecular Biology, Dept. of Horticulture  
Virginia Tech

Dr. Jerzy Nowak, Plant Tissue Culture and  
Biotechnology, Dept. of Horticulture  
Virginia Tech

Dr. Thomas Fox, Assoc. Professor of  
Silviculture, Dept. of Forestry  
Virginia Tech

#### The Project

Clonal propagation of trees has great potential for increasing growth and improving wood quality. Yield, quality, and disease resistance will be advanced significantly, and value will grow and forest sector receipts will be increased. Because of increased uniformity in the raw material, management and conversion costs will be reduced. Annual yields will increase along with the increases in quality, further boosting farm-level receipts. The project fills gaps in knowledge, allows the coordinating of raw material wood with the intended use, and furthers development of high-value forest crops. The development of clonal forest crops will foster immediate, short-term economic impacts as well as sustained, long-term positive gains. The advent of clonal production will result in greenhouse and nursery production facilities that will increase farm receipts for a group of producers that choose to diversify into this area. The intermediate-term benefits will be highly significant as large numbers of landowners take advantage of clonal growing stock that will result in higher value per acre and shorter production cycles. And the long-term impacts have enormous potential as new crops, including biofuels, bio-based plastics, new varieties of woody ornamentals as well as elite lines for wood products, become available.

#### The Potential

The most recent data show 15.4 million acres, or over 61% of the land area, in commercial forests in Virginia. The forestry sector contributes \$5.1 billion directly to the state economy and an estimated \$30.5 billion annually to the Virginia economy in both direct and indirect (multiplier impact) flows. Some 77% of the 15.4 million acres are privately owned. Yields will increase 40% or more, depending on clonal variety. Values will increase 10-20 percent per unit volume. A big part of the Virginia economy, the sector has major potential to contribute receipts as new technology develops to improve varieties and increase yields and increase per-unit prices and values.

#### The Budget

A continuing budget commitment is needed. The program needs support for a stable core of research scientists who will be able, by leveraging a program base that can be sustained, to attract major grant and contract support. The budget line item should identify the College of Natural Resources, Department of Forestry, with collaborating scientists in the Horticulture Department, College of Agriculture and Life Sciences and provide a one-time and permanent increase in the state budget for \$250,000 starting in fiscal 2005.

### Confirming Potential

A clone development program that will allow the high quality and unique features of new genetic lines to be mass propagated, the project will allow an immediate and significant increase in quality and quality control and boost the value of Virginia production in a significant way.



## **B.1.g Production of high-value Soybean and Corn for animal feed through Metabolic Engineering**

Dr. Craig L. Nessler  
Professor and Head  
Department of Plant Pathology,  
Physiology, and Weed Science  
Virginia Tech

Dr. Elizabeth A. Grabau  
Associate Professor  
Department of Plant Pathology,  
Physiology, and Weed Science  
Virginia Tech

### The Project

The project will focus on developing high-value animal feeds. Genetic management of corn and soybeans will change the composition of the two important feedstuffs, produce genetic lines containing low levels of the high phosphorous compound phytate, and introduce genes encoding antibiotic peptides to help eliminate the need to include antibiotics in poultry diets. The newly engineered corn and soybeans will improve the health of poultry, lower poultry product costs, produce more healthy poultry products for human consumption and have a positive environmental impact by significantly reducing environmental phosphorus contamination in poultry litter.

### The Potential

There is significant opportunity to increase farm level receipts. Poultry accounted for 32.2% of farm receipts in 2001 and soybeans and corn (for grain) were the #2 and #3 cash receipt crops (behind tobacco) in the state. Corn and soybeans are grown on 330,000 harvested acres and 480,000 acres (both 2001 data) respectively in Virginia with production at 40.6 million bushels in corn and 17.3 million bushels in soybeans. Values of these feeds to the poultry sector will be increased, which brings the potential of higher prices to corn and soybean producers. Very importantly, the economic position of Virginia's poultry sector will be enhanced by improved feeds which reduce waste management problems and create poultry products with higher market value. Eliminating the need to feed antibiotics at a therapeutic level in poultry rations and developing poultry products that show higher levels of antioxidants can raise market value significantly and contribute to better nutrition and better health for consumers.

### The Budget

The budget need is a permanent one-time \$250,000 annual increment in the state budget to the Food, Nutrition, and Health program line item at Virginia Tech. The program of work builds on and extends the efforts of current scientists and needs a long-term budget commitment to allow recruitment of technicians and research and extension associates and to sustain the extended programs needed to facilitate leveraging of budgets through the USDA, the National Science Foundation (NSF) and the National Institutes of Health (NIH).

### Confirming Importance

The program is aimed at enhanced and improved feeds for the poultry sector that will reduce or eliminate the need to feed antibiotics in a therapeutic manner and improve the quality of the final poultry product in terms of contributions to nutrition and good health. Poultry is the number 1 contributor to farm receipts in the state.

### **B.1.h Using Genomics to Improve Disease Resistance, Flavor, and Health Benefits of the Strawberry Plant for Virginia through Genomics**

Vladimir Shulaev, Research Associate  
Professor  
and Associate Professor of Horticulture  
Virginia Tech  
Virginia Bioinformatics Institute

Virginia Bioinformatics Institute

Jacob Mignouna  
Associate Professor of Biotechnology and  
Plant Breeding  
Virginia State University

Richard Veilleux, Professor,  
Dept. of Horticulture  
Virginia Tech

Jerzy Nowak  
Professor and Department Head  
Horticulture Department  
Virginia Tech

Joel Shuman, Postdoctoral Associate  
and Adjunct Assistant Professor of  
Horticulture  
Virginia Tech

#### The Project

The project uses the strawberry plant as a tool to understand the functions of genes that control traits in major food crops. Molecular biology, tissue culture, and bioinformatics will be used to identify genes that resist disease and promote good health via high levels of antioxidant production. High market values will come from disease-free products, control of flavonoids to improve taste and fragrance, and contributions to nutrition and health.

#### The Potential

Potential for improved receipts is high. In 2001, only 500 acres of strawberries were harvested, but receipts were \$5.084 million. An intensively managed enterprise with high input capital requirements (irrigation, etc.), strawberries offer potentials for profits to the many small farms in the state if the major disease problems can be managed and Virginia Finest markets developed and expanded. In 2001, there were also 7.381 million bushels of apples and 167,000 bushels of peaches sold at values of \$32.5 million and \$2.2 million respectively. The technology developed in the work on strawberries will apply to these important tree fruits as well, and fruits, berries, and allied products is a potential growth sector in the state.

#### The Budget

The budget needs are for a long-term commitment under the auspices of the Food, Nutrition, and Health program. An one-time investment of \$250,000 starting in fiscal 2005 that stays in the state budget line item for Food, Nutrition, and Health and offers \$250,000 in budget support each year will provide the stability needed to take full advantage of this opportunity and build future opportunities to leverage grants and contracts from a number of public agencies and private firms.

#### Confirming Importance

Focusing on strawberries for some of the development that plant allows, this program will generate outputs that are directly appropriate for the small fruits as well. The ability to produce disease free and health enhancing controlled genetic fruits has huge potential in Virginia, especially on Virginia's many smaller and often part time farms that make up the essence of rural communities in the state.

### **B.1.i Developing infrastructure focused on competitive manufacturing and profitability for the forest products industry in Virginia**

## **Virginia Forest Products Competitiveness Initiative**

Dr. D. Earl Kline  
Professor of Forest Products Manufacturing  
Dept. of Wood Science and Forest Products  
Virginia Tech - College of Natural Resources

### The Project

This is a new education, research and outreach initiative to develop and lead a statewide infrastructure focused on competitive manufacturing and profitability for the forest products industry in Virginia. This initiative is the first such effort designed to bolster, lead and ensure the future sustainability of the forest products manufacturing industry in Virginia – one of the leading employers today, but under tremendous pressure from rising raw material costs, market fluctuations, and off-shore labor and manufacturing-base development. Erosion of our manufacturing, distribution and sales base in Virginia would have significant consequences for the Commonwealth. The initiative will focus on: 1) developing technologies and systems that increase value-added capabilities while eliminating all forms of manufacturing waste; 2) providing and training human resources with the necessary technical and managerial skills needed to optimize flexible manufacturing systems; and 3) developing an integrated statewide resource to deploy needed technology, education, and training in an efficient and timely manner.

### The Potential

Farmers and private landowners own approximately 11.9 million acres of the total 15.4 million acres of forestland in Virginia. Timber is the leading market value crop among all agriculture commodities in Virginia, with a value of \$863.6 million alone paid to farmers and landowners for that crop (Department of Forestry “Our Commonwealth” <http://www.vdof.org/resources/pub-ri-Va-Forests-Common-Wealth.pdf>). The industry is the leading manufacturing employer in the Commonwealth, employing more than 248,000 when considering direct and indirect effects. The \$863.6 million in market value of the timber crop is leveraged by the manufacturing industry for an impact of \$25.4 billion to the Commonwealth economy. Unless action is taken, we will likely see the loss of one of our last remaining manufacturing strongholds much like what took place in the 1980s and 1990s in the textile industry. Every county and thousands of landowners, farmers, and manufacturing workers could be impacted by this initiative. This initiative will benefit all businesses in the forest products supply chain from “woods to goods”. Attractive in-state markets will help promote good forestry practices in the Commonwealth. These forest products businesses are the primary economic and employment source in rural regions, particularly Southwest and Southside Virginia, but can be found throughout Virginia and in urban areas of the state, as well. Indirect benefits will go to all businesses that touch and support the forest products industry such as transportation, packaging, equipment, electronics, and other such suppliers.

### The Budget

The success of this initiative will ultimately rest on the development of an integrated state resource to bolster manufacturing competitiveness. To build, manage, and maintain this resource, we seek an ongoing budget commitment through a permanent budget increment to Virginia Tech’s Forest Products program in the College of Natural

Resources. An alternative to ongoing support would be a one-time budget to establish a state “center of excellence” in forest products manufacturing. However, sustaining this center would be contingent on other funding sources.

### **B.1.j Expand the Use of Adapted Small Ruminant Breeds for Organic, Low-Fat Meat Production**

Dr. Stephan Wildeus, Associate Research Professor, Small Ruminants  
Box 9061, Agricultural Research Station  
Virginia State University  
Petersburg, VA 23806  
[swildeus@vsu.edu](mailto:swildeus@vsu.edu)  
804.524.6716

#### The Proposal

Research will be conducted to translate the adaptation and survival traits of selected hair sheep and meat goat breeds into production systems to allow certification for organic production. Efforts under way at Virginia State University on forage-based meat production from sheep and goats will be expanded to eliminate all non-organic management inputs (especially anthelmintic treatments). The growth performance and metabolic profiles as well as carcass characteristics and quality of the animals will be monitored and compared to contemporary animals raised under the more traditional system. Residue testing will be conducted to determine differences in meat quality. Trials will especially address variables such as season of production, target age and weight at slaughter, forage quality needs, and pasture rotation. Efforts will be made to expand the genetic base of the candidate breeds and make the improved stock available to a larger segment of Virginia sheep and goat producers and other interested farmers.

#### The Potential

The number of small-scale and part-time farmers are rising in Virginia, and these groups can take advantage of a dramatically increasing consumer interest in organically produced meat. Hair sheep and some goat breeds possess production traits (utilization of marginal forages, tolerance of nematode parasites, reduced disease susceptibility) that would make them suitable for use in a reduced input, and/or organic production system. These commodities already command a premium in the expanding ethnic market (i.e. the Hispanic population now represents over 13.3% of the U.S. population; a net international migration of 3.3 million immigrants into the U.S. between 2000 and 2002) and are produced at insufficient levels to satisfy domestic demand (i.e. imports of frozen and chilled goat meat increased from \$1.8 to \$14.2 million from 1990 to 2002). Organic production would expand the consumer base for this industry and further increase the value of the product.

#### The Budget

A request for \$100,000 each year in fiscal years 2005, 2006, and 2007 to continue work in this area and to help support the efforts of the scientists to establish a base that will allow leveraging of funding to large levels from public agencies and/or private firms.

#### Confirming Importance

In relating the intent and scope of this project a positive endorsement was received from the state sheep specialist (Dr. Scott Greiner, Virginia Tech), who indicated his willingness to cooperate the educational aspects of the project. The proposed work was also well received and endorsed by the Mid-Atlantic Meat Goat and Lamb Marketing Cooperative based in central Virginia. (Ms. Marilyn Sanford).

## **Important Budget Issues in Research/Extension Not Unique to the Ag Receipts Initiative**

There are a number of budget initiatives in the 2005 fiscal year that will be important to profitability and to revenues in the farming sector of Virginia that are not unique to the Ag Receipts initiative and would have occurred in some form without this initiative. A Critical Staffing initiative from Virginia Cooperative Extension for \$3 million is described by Director Steve Umberger in the following pages. A draft of a support comment is provided and then the breakdown into state specialists and field level extension agents is also provided.

The Ag Receipts Working Group has made no attempt to rank the importance of the critical staffing initiative in Virginia Cooperative Extension vs. the research projects developed to stimulate receipts. These are two different types of budget items: (1) initiatives that have happened because the Ag Receipts group was formed such as the research projects presented in earlier pages of this report, and (2) initiatives that are important to profitability and to growing receipts at the farm level that are not uniquely due to the forming of the Ag Receipts group, and the VCE Critical Staffing initiative fits in this category.

### **B.2 Restore funding for critical staff and programs in Virginia Cooperative Extension and in the Agricultural Experiment Stations**

Virginia Cooperative Extension (VCE), a product of the land-grant university system, delivers research-based education and services not provided by any other state agency. State budget reductions in the 02-04 biennium resulted in the loss of 85 Extension Agent and 20 Extension Specialist positions. The 2003 General Assembly restored funding to preserve 25 positions that would otherwise have been lost, but critical vacancies continue to exist throughout the state. These vacancies have severely impacted Virginia Tech's ability to fulfill its land-grant mission of transferring research to the local level for the purpose of building stronger and more economically viable agricultural and forestry industries, families, and communities.

The agricultural revolution of the 20th century is a credit to the land grant system. The transfer and application of research from land grant universities to the agricultural and forestry industries by way of Extension has been copied throughout the world but never duplicated. If Virginia is to achieve its goal of doubling net agricultural receipts, it is important that Virginia Cooperative Extension have the critical mass of agents and specialists, research base, and technology infrastructure to support producer education, leadership training, and rural development. The mechanism is in place. To meet the goal of doubling net agricultural receipts, certain high priority agent and specialist positions must be funded. The lack of Extension Agents at the local level has resulted in poor response time to producer requests, fewer demonstrations of new technologies, and setbacks in the development of new value-added marketing systems. Producers rely on agents to provide data on local growing conditions and unbiased information on pest control methods as the basis for decisions directly impacting profitability. Accordingly, this information is not available through the private sector. In the absence of subject matter specialists at Virginia Tech and Virginia State University, the successful

delivery of educational programs by Extension Agents cannot be sustained. When specific types of information are unavailable in Virginia, Extension Specialists can access research results from land grant universities across the nation to address key issues affecting the profitability of Virginia's agricultural and forestry industries.

This Critical Staffing Initiative is a request for \$3 million each year of the biennium to fund 56 Extension Agent and Specialist positions. These high-priority positions were identified through a strategic staffing analysis that was conducted with stakeholder input at every level of the organization. This is not a business as usual request but is designed to address critical issues and needs associated with the following high priority goals:

1. Doubling state net revenue from agriculture and forestry by 2010.
2. Sustaining homeland security, especially in the areas of agricultural biosecurity, food safety, and public health.
3. Enhancing rural economic development through agricultural and forestry competitiveness, agritourism, leadership development for local government and communities, and home-based business enterprises.
4. Educating Virginia's citizens on the importance of sound environmental stewardship to enhance and preserve our land and water resources.

The 39 Extension Agent positions and 17 Extension and Research Specialist positions included in this initiative have direct impact on these four main goals. Local governments have already pledged their standard one-third share of funding for the agent positions. Given budget constraints at the county level, this support demonstrates that Extension's programs are essential to local communities. The Critical Staffing Initiative combined with organizational restructuring and efforts to improve information delivery through enhanced networking capabilities will position Extension to address critical issues facing the Commonwealth, but with significantly fewer positions than when budget reductions were initiated. Cooperative Extension and the Agricultural Experiment Station seek funding for this initiative because Virginia depends on Virginia Tech and Virginia State University to generate new knowledge through research and to disseminate that knowledge to citizens and communities through Extension programs.

**Virginia Cooperative Extension  
2004 Critical Staffing Initiative**

***Proposed Extension Specialist positions based on Departmental priorities and classified by major thrusts:***

1. Doubling State net revenue from agricultural and forestry production by 2010

Pomology – Alson H. Smith Agricultural Research and Extension Center (AREC)  
Wildlife Nuisance – Department of Fisheries and Wildlife  
Organic Production of Crops – Department of Crop and Soil Environmental  
Sciences  
Grape and Small Fruit Production – Southern Piedmont AREC  
Turfgrass Pathology – Department of Plant Pathology, Physiology, and Weed  
Science

2. Homeland Security

Consumer Food Safety – Department of Food Science and/or Department of  
Human Nutrition, Foods and Exercise  
Muscle Foods Safety - Virginia Seafood AREC  
Vegetable Pathology - Eastern Shore AREC  
Animal and Medical Entomology – Department of Entomology  
Public Health and Health Literacy – Department of Human Nutrition, Foods and  
Exercise

3. Rural and Economic Development

Enology – Department of Food Science  
Wood Manufacturing Competiveness – Department of Wood Science and Forest  
Products  
Marketing Management of Farm Products and Agritourism – Dept. of Agricultural  
and Applied Econ.  
Youth Financial Education and Entrepreneurship – Virginia State University

4. Environmental Stewardship

Drinking Water Quality and Irrigation – Department of Biological Systems  
Engineering  
Forest Hydrology – Department of Forestry  
Consumer Horticulture – Department of Horticulture

***The 17 positions listed above were selected from a group of 36 positions proposed by Departments in the Colleges of Agriculture and Life Sciences and Natural Resources through a Strategic Staffing Analysis.***



## **Critical Staffing Initiative**

### **Extension Agent Positions**

#### **Northern District**

Louisa County – ANR – Animal Science  
Stafford County – FNH  
Caroline County – 4-H  
Fairfax County – 4-H  
Albemarle County – ANR – Animal Science

#### **Northeast District**

Mathews/Gloucester – 4-H  
Goochland/Powhatan – 4-H  
Hanover – ANR – Commercial Horticulture  
James City/New Kent – ANR –  
Environmental Horticulture  
King William/King & Queen – 4-H

#### **Northwest District**

Rockbridge County – 4-H  
Roanoke City/County – FNH  
Craig County – ANR – Crop and Soil  
Science  
Bath/Highland – 4-H  
Warren County – ANR – Animal Science

#### **Southeast District**

Greensville/Emporia – ANR – Crop and Soil  
Science  
Northampton County – 4-H  
Sussex County – 4-H  
Dinwiddie County – 4-H  
Southampton – 4-H

#### **Central District**

Bedford County – 4-H  
Lunenburg County – 4-H  
Cumberland County – ANR – Crop and Soil  
Science  
Prince Edward County – ANR – Animal  
Science  
Pittsylvania County – ANR – Animal  
Science

#### **Southwest District**

Pulaski/Montgomery/Floyd/Patrick/Grayson/  
Carroll – ANR – Commercial Horticulture  
Wythe/Bland/Carroll/Grayson – FNH  
Bland/Giles – ANR – Animal Science

Pulaski County – ANR – Animal Science  
Montgomery County – ANR – Crop and Soil  
Science

#### **State Funded Area-Agent Positions**

Northeast District Farm Business  
Management  
Northern District Farm Business  
Management  
Northeast District Natural Resource  
Southeast District Natural Resource  
Northwest District Natural Resource  
Central District Dairy  
Southeast District Commercial Vegetable  
Airfield 4-H Center Director  
Holiday Lake 4-H Center Director

- \*B.3 Fund through Federal dollars (Homeland Security or other) and implement the “State-of-the-Art Emergency Management Response IT Network for Virginia” as proposed by the Virginia Cooperative Extension Service. A state-wide emergency management response IT system would be implemented by using the current state-wide Extension network to disseminate emergency information to all localities. This would not only provide a model electronic notification system for Virginia, but also immensely improve VCE’s communication and education capabilities. (*See attached*)

Resources Required – No State funding.

Performance Measures – First-responders network created; Extension programs critical to profitability of Virginia agriculture and forestry advanced without State dollars

## C. RECOMMENDATIONS FOR MARKETING AND ECONOMIC DEVELOPMENT

## Summary of Recommendations

- \*C.1 Have the Governor assume the role of “First Salesman” for Virginia agricultural and forestry products.
- \*C.2 (some) Champion continued domestic and international marketing of Virginia grown agriculture and forestry products and provide for increased visibility for these products.
- \*C.3 Develop a VDACS Agribusiness Development Services initiative in “new-age” agricultural cooperative-like business and high value / value-added agribusiness development.
- C.4 Expand VDACS’ Agribusiness Development Services capacity to assist Virginia agribusiness with expansions and job retention and to recruit new processors to the state.
- C.5 Fund an expanded Capital Access program focused (restricted) on the agribusiness industry in Virginia as recommended by the Rural Virginia Prosperity Commission (RVPC).
- \*C.6 Promote the use of renewable fuels by mandating or at least strongly encouraging a certain percentage use of alternative fuels in State owned and operated vehicles.
- \*C.7 Use existing plans and programs to develop a formal Virginia Agriculture Risk Management Strategy that addresses the State’s role in addressing adverse situations impacting the agribusiness industry such as drought, animal and plant disease, and epidemic outbreaks.
- \*C.8 Have the Governor appoint a Task Force under the leadership of the Secretary of Commerce and Trade composed of leaders in the Agriculture and Forestry industry, VDACS, Virginia Port Authority and exporters to review current efforts and existing programs and develop a strategic plan for exports of Virginia Agriculture and Forestry products.
- \*C.9 Establish an Agriculture Innovation Center for Virginia to assist agricultural entrepreneurs in Virginia and create a consistent and diverse dialogue on agricultural innovation for Virginia to transition to the realities of the highly competitive agricultural and forestry products marketplace in the 21<sup>st</sup> century.
- C.10 Establish a Center for Rural Virginia, a public-private partnership to serve as a catalyst for the sustainable well-being of rural Virginia.
- \*C.11 Support a study and/or pilot project for a beef industry project.

## **MARKETING AND ECONOMIC DEVELOPMENT**

### **Description of Issue**

Virginia's agriculture and forestry industry is a diverse and extensive system which plays a significant role in the health of Virginia's overall economy. This system encompasses production, processing, manufacturing, distribution, and marketing industries along with the numerous sectors that provide services and supplies. As beneficial as diversity may be, it also is a disadvantage. Production is typically not sufficient in any one sector to allow Virginia agriculture and forestry to be in a position to impact national and global markets and trends. Therefore, this industry must position itself to be the first to generate new discoveries through research, tap into niche markets, exploit its geographic position on the populous East coast, promote new high-value products, and take advantage of global opportunities through our own ports.

Agriculture and forestry's already substantial contribution to the state's gross product, sales revenues, and employment can be increased through additional marketing efforts and economic development opportunities.

Virginia agriculture today finds itself challenged on all sides by the need to compete in world markets; the need to adjust to new economies of scale in production; the need to adjust to changes in consumer demand for more convenience in food preparation; and the need to address pressures associated with cropland being developed. All of these challenges, when taken in the context of low prices for agricultural commodities and shrinking infrastructure to support agricultural operations, make farm business profitability the greatest challenge to the long-term survival of Virginia Agriculture.

Increasing the demand for Virginia grown agricultural products is best achieved by looking at the markets where our products are sold. Virginia grown products are sold directly or indirectly into three macro market segments: 1) Virginia; 2) United States; and 3) Export or World markets. While the Virginia market and US market growth are slow to flat, the growth potential in the export market is great. With growth in both numbers of customers and the customers' consumption rate, the export market has great potential. The US exported over \$50 billion of agriculture last year. Because of Virginia geographical location and its shipping infrastructure, we are well positioned to leverage Virginia's ability to produce at the farm level.

Farmers have responded to these challenges in different ways. Some have sold out to developers and retired or moved to different careers. Others have started producing new crops and value added products (like processed foods). Others are attempting to form new business organizations - such as "new age cooperatives" to pool capital for new processing ventures and marketing and buying cooperatives. Still others have formed alliances with partners further up the processing chain to supply specific inputs required to produce specific products.

In this environment, farm businesses will require considerable support if they are to flourish. Among other things, they will need support in finding funding for new products and new business development; support for the development of new business organizational types; support and assistance in business expansion and support in the retention of all-important agricultural infrastructure, agricultural labor and agricultural input businesses.

At the same time, Virginia's rural communities need jobs – be they in agricultural processing, manufacturing or other agricultural input/service businesses. Non-agricultural jobs provide off-farm income opportunities that allow farm families to supplement their on-farm income and remain on the farm.

### **Contribution to the Goal**

Expansion of marketing initiatives domestically (Virginia's Finest program, for example) and internationally (trade missions) will increase markets for new and traditional products. Support for research and extension programs will lead to the development and marketing of high-value, competitive food and fiber products. Development of in-state processing for high-value niche and branded products will position them to compete. Alternative financing programs will encourage economic development of small business firms that can be launched or are already in business in rural communities. Innovative business structures and financing will ensure the expansion and diversification of existing agribusiness firms and farms. Support and promotion of the use of alternative fuels (soy bio-diesel, ethanol, and bio-mass) will move these basic source crops beyond their traditional markets.

It is said that "the most important part of a manufacturing line is the customer, in the marketplace, that is willing to buy the item being produced." In much the same way, to effectively increase the production of Virginia farms and marine resources, one must look at all links within the food chain, not the least of which is the ultimate customer. By increasing the demand for Virginia exports, we can increase the need for Virginia produced farm and marine products. By concentrating on active exporting companies and helping them with incremental sales, Virginia can help herself most with the least amount of effort. Active exporting companies must have some *competitive advantage* in the world markets.

### **Recommendations**

- \*C.1 Have the Governor assume the role of "First Salesman" for Virginia agricultural and forestry products. Increase consumer awareness and demand for Virginia grown crops through active promotion of Virginia agriculture products by the Governor's personal involvement such as appearing in VDACS marketing advertisements and encouraging that Virginia products be showcased/highlighted at all State conducted and hosted meetings held in Virginia and during trade missions.

Resources Required - \$0

Performance Measures –Level of participation by the Governor; increased consumer awareness and consumption of products (Note: Resources would be required to conduct consumer surveys for definitive measurement.)

- \*C.2 Champion continued domestic and international marketing of Virginia grown agriculture and forestry products and provide for increased visibility for these products. Most Virginia growers do not have the financial resources to successfully promote their industry and products domestically and internationally through multi-faceted public relations campaigns, buyer tours, customer missions, attendance at major trade shows, and building relationships with existing and emerging markets and countries. Supported by the Commonwealth, these activities increase growers' exposure to buyers and give them the chance to network and gain a better understanding of the competitive pressures they face.

Total Resources Required - \$1,752,730 (*see individual recommendations for specific required resources*)

Examples of specific projects that support this recommendation:

- a. *Virginia Grown* Promotions – A multi-faceted campaign including grower videos, Point-of-Sale materials, newspaper, radio, and television advertising, public television segments, agri-tourism events, media tours, and hosting Virginia growers at major industry trade shows.

Resources required: \$400,000

Performance Measures: Feedback from retailers, producers and consumers and, where possible, a tracking of increased sales.

*Virginia's Finest* Promotions - Discussions with individual specialty food companies, distributors, wholesalers, mail order companies, and retailers to survey their needs and identify the best ways of promoting Virginia's Finest products. Promotional activities would include both large scale promotional campaigns as well as smaller promotions centered around special holidays or events. Major elements would include, but not be limited to the following: Point-Of-Sale (POS) materials, development of radio and television advertising, public TV events, gift baskets, newspaper advertising and supplements, consumer public relations, co-op advertising for retailers, and display contests.

Resources required: \$200,000

Performance Measures: Feedback of success from retailers, distributors, wholesalers, and individual processed food companies and, where possible, tracking of increased sales.

*Savor Virginia* Promotions - Offer and promote a centralized on-line resource through which buyers can find Virginia products. Be more visible and interactive to respond to the desire of buyers in the restaurant community in finding sources for Virginia products to use in menus and recipes.

Resources Required: \$14,730

Performance Measures: Increased sales of Virginia products.

b. Efforts to Connect Buyer and Seller of Virginia Products

Meet Your Customers Missions – Agricultural trade missions organized for Virginia produce, nursery, and agricultural growers/leaders to visit major buyers, USDA/FAS personnel, grocery stores, and warehouse operations throughout the Eastern United States and Canada to determine/review consumer demands, competition, packaging requirements, and develop new sales opportunities. Conduct production area tours for produce, nursery, and other ag product buyers as well as retail store produce managers that have not visited with Virginia growers. There are several large corporate buyers throughout the Eastern United States that, according to industry, should be brought to Virginia on fruit, vegetable, and/or nursery production area tours.

Resources required: \$150,000

Performance Measures: Feedback of success from the industry and major retailers. Documentation of the number of production area tours and agricultural missions as well as number of participants.

- \* Feeder Cattle Marketing - Conduct a feeder cattle promotional program to buyers in the Mid-West feedlot region including brochures, exhibits, on-farm tours, and electronic promotional materials.

Resources Required: \$260,000

Performance Measures: All Virginia calves born have to travel out of state for further finishing and harvesting. If a program can increase income by \$1 per cwt. then this would equal \$5 million in increase value

- \*c. Developing Hull Less Barley Markets – Conduct a dedicated market development program in order to develop local and international demand for hull less barley. This feed grain, which is similar to corn in feed value and can be grown cost effectively by Virginia farmers, is the subject of an ongoing Virginia Tech breeding program that is unique in the United States and has recently released a new variety. Opportunities exist to actively pursue a strong interest in the grain that has been expressed by a



major swine company and other countries. An exemption by Congress to the Jones Act for hull less barley to move out of Virginia on a foreign flag ship would resolve a transportation issue and create an instant and very large market. A generally accepted set of standards for this product needs to be developed with the industry and USDA so hull less barley can be traded on a level playing field.

Resources required: \$100,000

Performance Measures: Production could be brought up to 5 million bushels which would contribute approximately \$10 million to the grain industry in Virginia. Farmers would be able to plant soybeans earlier which would translate into more bushels per acre, open space would be preserved, more farmers would remain in business, the animal industry will remain competitive, and agribusiness would increase their profitability by providing more inputs for the production of this crop.

Marketing Specialty Grains – Market identity preserved (IP) agricultural products to emerging market countries. Traditional market access programs do not address the particular constraints and barriers to market entry peculiar to value-added products. Producers that have developed capability and competency in specialty crop production now need support to realize the promise of markets for IP, trait-specific grains, oilseeds, and processed ingredient products.

Resources Required: \$126,000

Performance Measures: Sales of specialty grains and/or oilseeds in targeted emerging market countries. Establish customer relationships and sign memorandums of understanding (MOUs) with food processors and/or wholesale buyers. Communicate the message to potential trading partners that Virginia is able to provide a safe and steady supply of value-added agricultural products that meet the individual market requirements. Expand the Virginia producer base and the production capacity that can be dedicated to value-added grain and oilseed production by 100% in three years. Develop the accompanying information handling systems (IP) that will enable efficient sale and movement of the goods from production to end-user, and include in MOUs. Find solutions to non-traditional import restrictions. Potential constraints to be solved will include but are not limited to terms of delivery, IP procedures, specific trait analysis requirements, shipping issues, packaging, and processing.

- \*d. Transportation and Logistics Study - A study of logistics and transportation resources in Virginia to provide exporters with information to re-identify Virginia's comparative advantages in the global marketplace as a direct means to improving the competitiveness of agricultural exports. The cost

and time of transportation services is a major expense for Virginia exporters. Many times, the success or failure of export sales is determined by how well a supplier can negotiate low-cost, reliable transportation and their knowledge of alternative modes of shipping.

Resources required: \$120,000

Performance Measures: Determination of transportation infrastructure investment needs for Virginia to improve global agriculture competitiveness and identify sources for investment capital; Provide estimates on increased exports as a result of following the study's recommendations; Provide statewide presentations to industry on the results of this study.

- \*e. Export Trading Company (ETC) for Wood Products - Organize an ETC with hardwood and softwood producers in Virginia and potentially companies in other states producing other wood species to increase Virginia's competitiveness access to new markets.

Resources Required: \$20,000

Performance Measures: Generate new export sales of Virginia wood products. Share freight cost, which is an important component in the lumber trading total cost. Penetrate and develop new markets. Establish new importer contacts for establishing longer-term export business in the wood sector.

- f. Specific Commodity Promotions

Virginia Horse Industry – 1) Re-instate funding for Breeders Incentive Program which has been a prime incentive for horse owners to become involved with and expand their breeding operations. It is an excellent marketing tool for small breeders and sets Virginia apart from other states by offering incentives to non-racing breeds. It is the "Virginia's Finest" of the horse industry. 2) Participate in "The First Annual Equine Event East," a 3-day trade show and major event in the region and for the Virginia horse industry in March, 2004. 3) Conduct joint agri- tourism projects with the Virginia Tourism Corporation including the development of a "Visit a Virginia Horse Farm" campaign.

Resources Required; 1) \$60,000. 2) \$20,000. 3) \$80,000.

Performance Measures: 1) Amount of private dollars paid out and the number of breeders who participate. 2) Level of participation by attendees at the booth, the number of materials/items given out at the booth, and the number of hits on the State's website with information on this event. 3) Number of requests a toll-free number receives; the number of farms & Tourist Information Centers that

participate; and the total attendance at each regional event as counted and reported by the participating farms.

- \* Virginia Nursery Industry - Expand the quality and selection of products available to the consumer while at the same time increase public awareness of the value of plants in their yards and the environment. A state wide coordinated new plant introduction program would provide the testing of new plant material, the re-introduction of old standards and the emphasis on using “native plants” to stabilize our dynamic Virginia ecosystem. Additional programming would be aimed at encouraging and directing the consumer to use “plants” as part of their daily lives.

Resources Required: \$92,000

Performance Measures: Once the program goes through its first cycle, the new plant introduction activity will present 4-8 new plants to the public each year and their associated sales value. Measures will include attendance at trade shows, visitors to displays and presentations, hits on a website, usage of POP materials, and quantities of new varieties grown in Virginia.

- \* Virginia Wine Industry – Conduct a creative public relations campaign to create national awareness of Virginia wine, including feature stories in major industry publications, press releases, and a national media tour of Virginia wineries hosted by the Governor.

Resources Required: \$110,000

Performance Measures: Increased winery visitation; Increased calls to 800-line; Increased web site visits; Media clips and video copies of air time; Increased wine sales and market share as reported by Virginia ABC.

- \*C.3 Develop a new initiative within the State’s Agribusiness Development Services to promote and assist in the creation and organization of “new-age” agricultural cooperative-like businesses for production or processing of value-added products; facilitate producer transition to high value or value-added agribusiness ventures; conduct trade missions with Virginia entrepreneurs to meet with strategic partners in other states; and organize targeted interstate agricultural tours to see innovative production and processing opportunities.

Resources Required: \$50,000

Performance Measures – The success of this effort can be measured by tracking the growth of investment and the numbers of jobs created or enhanced in agribusiness enterprises in Virginia.

- C.4 Expand existing Agribusiness Development activities to increase new investment and opportunities in agribusiness and further promote job creation in rural areas by giving more intensive attention to a) a growing number of Virginia agribusinesses seeking help with expansions; b) facilitating strategic alliances with processors to provide expanded marketing opportunities for Virginia producers; c) assisting more new enterprises with the time-consuming process of business start-up; and d) marketing Virginia more aggressively through greater participation in targeted trade shows for recruitment of new firms to Virginia.

Resources Required: \$175,000 (1 FTE in VDACS)

Performance Measures - The success of this effort can be measured by tracking the growth of investment and the numbers of jobs created in agribusiness enterprises in Virginia.

- C.5 Fund an expanded Capital Access program focused (restricted) on the agribusiness industry in Virginia as recommended by the Rural Virginia Prosperity Commission (RVPC). Borrowing money to grow rural small businesses that will help Virginia's rural communities get off their financial and economic knees has been difficult. Many "almost bankable" loans are denied. If small businesses in rural Virginia could borrow and expand, they might contribute more to the overall state economy and help push rural Virginia toward self-sufficiency with a pace of economic activity paralleling the urban sectors of the state. Capital access programs have the potential to bridge the collateral gap. (\$1 million in state reserve deposits generates \$25 million in Capital Access loans which generate \$78.75 million in new business sales and generates 1,937 or more new jobs which generate \$2.34 million or more in new state taxes.)

Resources Required - \$1.0 million (coordinate with RVPC legislative efforts)

Performance Measures – Increased economic activity and development in rural Virginia.

Develop and implement new financing institutions (such as a Virginia Agricultural Development Authority) to help agribusiness finance new value-added enterprises. (Legislative Action Required: Bonding Authority)

Resources Required: Legislation authorizing issuance of \$ 5 million in bonds (initially)

Performance Measure: Businesses assisted/ jobs created

Develop and implement new financing tools (such as "Aggie Bonds") to assist new farmers with loans for the purchase of land.(Legislative Action Required: Bonding Authority)

Resources Required: Legislation authorizing issuance of \$ 5 million in bonds (initially)

Performance Measure: Beginning farmer loans guaranteed or made

- \*C.6 Promote the use of renewable fuels by mandating or at least strongly encouraging a certain percentage use of alternative fuels in State owned and operated vehicles.

There are already four public B-2 biodiesel blend pumps in Virginia. It works in any diesel engine with few or no modifications necessary. Biodiesel is a cleaner burning alternative fuel made from renewable resources, such as soybean oil produced by Virginia farmers. An EPA report states that its use can reduce harmful emissions. A recently completed feasibility study recommends building a 2.5 million gallon per year soy-biodiesel plant in Virginia based on soybean oil stocks available in the state, transportation costs, available technology for a continuous-feed biodiesel plant, and market forecasts for biodiesel use in Virginia and surrounding states. It is anticipated that when new lower sulphur rules are implemented in 2006-2007, bio-diesel processed from Virginia soybeans, a superior additive to sulphur, could be in a position to take over this market.

Resources Required – None

Performance Measures – Increased market for soybeans and soybean oil in Virginia

Increasing the use of biomass energy in Virginia will provide multiple economic, environmental and rural development benefits. Biomass energy is not new to Virginia, but it has been mostly confined to forest product industries. New technologies, environmental and energy concerns, and the need for new markets all provide opportunities to expand the use of biomass energy. Following are several reasons why Virginia could benefit from expanded utilization of biomass.

- Provides new markets for waste wood, manufacturing residues, and materials from forest management activities.
- Provides new markets for agricultural residues and potential for developing energy crops.
- Reduces woody debris and other wood waste going to landfills, being dumped or open burned.
- Provides positive environmental features as compared to using fossil fuels – including reduced pollution and renewability.
- Provides additional jobs and revenues to local economies, especially in rural areas.
- Numerous federal programs provide technical and financial support to expand renewable energy capacity.
- New technologies have the potential to provide scalable biomass power production from individual operations to providing energy needs to whole cities.
- Increased interest in better utilization of natural resources.

Advancing the use of biomass energy in Virginia will require a multi-prong approach that includes an inventory of the biomass material resources, education and demonstration of new biomass technologies, development of efficient movement of materials to point of use, and cooperation and leadership from various groups and agencies in Virginia to identify and act on barriers and opportunities.

At the present time a cooperative research effort is identifying the types, quantity and location of woody materials that may be available in Virginia. There have been several meetings of various groups with interest in expanding biomass use, including Longwood University, but there needs to be statewide coordination of all the interested parties. At the state level some constraints exist to expanding biomass energy production. Investigating programs from other states will provide Virginia with information that could help it and its citizens maximize the benefits of increasing the use of biomass energy.

Resources Required – (to be completed)

Performance Measures – (to be completed)

- \*C.7 Use existing plans and programs to develop a formal Virginia Agriculture Risk Management Strategy that addresses the State's role in addressing adverse situations impacting the agribusiness industry such as drought, animal and plant disease, and epidemic outbreaks. Specifically announce the completion of the State agency contingency plan for severe disease outbreaks (i.e., avian influenza).

Resources Required – None

Performance Measures – Increased incentive for economic development when businesses are aware of the Commonwealth's vigilance in this extremely volatile area.

- \*C.8 Have the Governor appoint a Task Force under the leadership of the Secretary of Commerce and Trade composed of leaders in the Agriculture and Forestry industry, VDACS, the Virginia Port Authority and exporters to review current efforts and existing programs and develop a strategic plan for exports of Virginia Agriculture and Forestry products. The strategic plan will address the following: current situation of Virginia Agriculture and Forestry products exports with specific data which accurately depicts Virginia products being exported, data collection methodology to capture future information, export opportunities and strategies, integration of Governor's and VDACS trade missions with the overall export strategic plan, integration of VDACS International Marketing activities with the export strategic plan, resource needs and strategies to increase Virginia Agriculture and Forestry exports.

Resources Required: No additional resources required.

Performance Measure: Action accomplished and strategic plan developed

(Note: This recommendation does not imply that VDACS is not effective in their international marketing efforts. It takes what VDACS is doing to the next step by focusing these efforts on a higher level, increasing visibility of these efforts, and developing a Strategic Plan for the Commonwealth in regard to export of agricultural and forest products. Such a Plan would be developed by a Task Force appointed by the Governor. Members would include industry leaders, VDACS, the Port Authority, and businesses/individuals currently involved in exporting. The Task Force would review the current situation, collect appropriate data as needed, and explore new opportunities and strategies. Having developed a Strategic Plan, resources and efforts by the Governor and VDACS could be integrated for greater accomplishment.)

Within the Strategic Plan, consider including the following:

Clearinghouse for Wood Products - Prioritize and evaluate new markets for the lumber industry, develop potential buyer contacts, determine best market promotion tools and marketing strategies and promote Virginia lumber sales. Also provide additional services to manage sales: solicit tenders, advisory in negotiations with suppliers, and monitor shipments and payments.

Resources Required: \$40,000

Performance Measures: Identify trade leads in Latin America and other optional regions. Disseminate information on sales opportunities to Virginia suppliers. Provide transactional advisory services to Virginia suppliers. Generate new export sales of Virginia wood products. Penetrate and develop new markets. Establish new importer contacts for establishing longer-term export business in the wood sector.

Conduct international trade missions targeting certain industry sectors. Options include:

Latin American Trade Mission - Lead a producer mission to Mexico, the Dominican Republic and Cuba and develop promotion programs, including participation in regional trade shows. Virginia fruit, grain, vegetable and wood products industry leaders would explore export opportunities in this region and showcase selected products available.

Resources Required: \$75,000

Performance Measures: Generate new export sales of Virginia hardwood, apples and grain within six months of the mission. Establish new importer contacts for establishing longer-term export business.

Canada and Mexico Trade Mission –Review recent trade policy issues effecting US-Canadian trade such as wood products and produce. Meet

with large integrated poultry producer and feed manufacturer to better understand importing needs and growing Mexican competition in poultry production. Meet with Mexican MinAg officials to emphasize Virginia's interest in exporting apples to Mexico and resolving the current phytosanitary requirements to permit this trade. Understand the impact of NAFTA on Virginia producers, both where are farmers have competitive advantages and increased competition from Canada and Mexico.

Brussels, Spain and Egypt Trade Mission - Meet with US Mission/Trade Representatives to the EU to understand EU Commissions position on WTO as it pertains to agriculture and GMO products, labeling and traceability; Meet with EU Commission representatives to encourage a resolution to the approval process of new genetically modified organisms (GMO); Discuss issues of EU expansion of Poland, Hungary, Slovenia and importance of US maintaining exports to those countries following membership; Meet with large importers of Virginia oak for wine barrel manufacturing and seek ways of maintaining these sales, despite increased competition of other suppliers; Meet with Egyptian MinAg officials to discuss future needs for soft winter wheat

China, and Korea Trade Mission - Become familiar with changing trade patterns and demand for imported products in China and explore the intricate mix of governmental relationships in Northern China/Beijing and the burgeoning agricultural entrepreneurs in Southern China (Shanghai, Guangzhou). Meet with Hong Kong based traders of Virginia meat products and seafood; assess the changing trade patterns in Southern China, particularly with the Guangzhou region. Meet with leadership in Wuxi region near Shanghai to discuss Virginia – China trade, economic development in China, joint ventures and Virginia agricultural export opportunities. Meetings with wood importers in this region. In Beijing, assess the impact of China's WTO membership on the future of Virginia agricultural exports. Meet with MinAg officials in Beijing to assess China's policy on GMO and its impact on grain exports from Virginia. From China, travel to Korea to meet with MinAg officials on trade policy issues affecting Virginia exports. Meeting with Korean agricultural industry associations that play a critical role in influencing government policy on imports. Better understanding of their concerns may help when negotiating for lower tariffs on a variety of products.

Resources Required – ??

Performance Measures – Increased export of Virginia products

- \*C.9 Establish an Agriculture Innovation Center for Virginia to assist agricultural entrepreneurs in Virginia and create a consistent and diverse dialogue on agricultural innovation for Virginia to transition to the realities of the highly



competitive agricultural and forestry products marketplace in the 21<sup>st</sup> century. The 2002 Farm Bill authorized USDA to develop an Agricultural Innovation Center program, allocating up to \$10M (\$1M per Center) for the formation of state or regional Agricultural Innovation Centers through a competitive matching fund program. Virginia could leverage the USDA grant program with matching in-kind state dollars and resources to address critical agricultural needs and enhance agricultural economic returns. The Virginia Center would target both existing, but underutilized market opportunities and infrastructure and innovative and progressive entrepreneurial business development in high value, value-added and cooperative-like agribusiness opportunities. Examples of program activities include a Northern Virginia Center for Consumer-Oriented Agriculture, Tidewater Virginia export Marketing Center, and Transitional, High Value Agriculture-Agribusiness Entrepreneurial Development.

Resources Required: \$500,000 [*Note: USDA to match with \$1M Grant; must have commitment for state support for funding in order to be competitive for the USDA Grant*]

Performance Measure: Action and activities accomplished; USDA Ag Innovation Center Grant Awarded

- C.10 Establish a Center for Rural Virginia, a public-private partnership to serve as a catalyst for the sustainable well-being of rural Virginia thereby contributing to the prosperity of the Commonwealth. After conducting a detailed analysis of rural Virginia economies, the Rural Virginia Prosperity Commission (RVPC) recommends creation of the Center as a strategic need for prosperity in Virginia. Functions for a Rural Virginia Center would be to: Serve as a voice for rural Virginia and develop a broad-based constituency; Coordinate and facilitate research on rural issues; Facilitate public/private investments in rural infrastructure; Enhance leadership development in rural communities; Identify and generate resources to sustain the Center and on behalf of rural Virginia, and Report on the Center's accomplishments.

Resources Required: To be determined.

Performance Measure: Center created.

- \*C.11 Support a study and/or pilot project for a beef industry project.

## D. Regulation

## Summary of Recommendations

- \*D.1 Have the Governor acknowledge to the public and State agencies the importance of a prudent balance between regulatory requirements and the economic viability of agriculture and forestry and participate in the educational effort that regulatory policies, regulations, processes and procedures must be implemented in a consistent, fair and scientifically based manner to achieve the desired policy goal without adversely impacting the economic and global competitive position of the Virginia agriculture and forestry sectors.
- \*D.2 Have the Governor issue an Executive Order requiring all agencies to review existing agency regulations, the scientific basis for the regulation and identify those that have a negative impact on agriculture and forestry which are not essential to public health, safety and welfare and have agencies propose alternatives to eliminate or reduce the impact by July 1, 2005.
- \*D.3 Establish an Ombudsman function for Agribusiness in the Office of the Secretary of Agriculture and Forestry to mediate regulatory disputes such as those involving environmental permitting issues and nutrient management issues, for example, between the Agriculture/Forestry industries and State agencies.
- D.4 In the area of environmental regulation have Virginia's Environmental Agencies and the Agriculture and Forestry sectors develop partnering relationships between urban and rural areas to address environmental issues.
- \*D.5 Develop and implement a permitting process for environmental permits for agriculture and forestry operations that enables a "one stop" approach with one agency for all such permits.
- D.6 Develop, implement and enforce legislation that requires localities to adhere to and implement State laws (such as the Right to Farm Law) consistently within the legislative intent of the law to prevent locally imposed mandates that adversely impact agriculture and forestry industries.
- D.7 Develop research initiatives and innovative technologies for animal waste disposal and for the utilization of new technologies for disposal, conversion to energy and other useful products from animal wastes. Develop and implement regulatory and permitting mechanisms and provide statutory authority that will allow state agencies to approve new usages and experimental ventures in animal waste technologies.

## Regulation

### Description of Issue

Regulatory mandates on agriculture and forestry are a complex maze of Federal, State and local requirements. The cumulative impact of these myriad of regulatory requirements which include environmental, labor, safety, land use, zoning, chemical, water quality, nutrient management, nuisance, etc. threaten the economic viability of agriculture and forestry enterprises. The costs both financial and emotional of regulatory requirements threaten the productivity and profitability of these sectors. Regulatory mandates need to be based on proven needs based on sound scientific principles that balance ensuring the health, safety and welfare of Virginia's citizens with practical economic reality.

### Contribution to the Goal

In order for Virginia agriculture and forestry to be competitive and growing in a global economy regulatory mandates must be focused on achieving the broad policy goals of the regulatory objective. These policy goals should be reasonable, consistent and balanced to insure that the costs, economic benefits and contribution to the public good do not adversely impact the competitive position of these sectors. Further, these policy goals must be stable and long term to insure that these sectors can plan and operate effectively as economically viable enterprises. The implementation and application of regulations and the processes and procedures associated with them must be consistent and cost effective across the entire Commonwealth. Further, the public benefit of desirable regulations and voluntary environmental programs dictates that cost share assistance must be provided to agriculture and forestry in order to achieve the public policy goals. In this type of regulatory and public policy environment, agriculture and forestry can grow and prosper maximizing its contribution to Virginia's economy.

### Recommendations

- \*D.1 Have the Governor acknowledge to the public and State agencies the importance of a prudent balance between regulatory requirements and the economic viability of agriculture and forestry and participate in the educational effort that regulatory policies, regulations, processes and procedures must be implemented in a consistent, fair and scientifically based manner to achieve the desired policy goal without adversely impacting the economic and global competitive position of Virginia's agriculture and forestry sectors in order to achieve the goal of doubling net ag receipts over the next ten years. Also, State policies need to emphasize voluntary flexible programs as the preferred regulatory approach. In addition thorough economic impact studies that focus on cost-benefit analyses of any regulatory proposal must be completed as part of the decisionmaking process for any regulatory proposal impacting the agriculture and forestry sectors.

**Resources Required**  
**Performance Measure**

no additional resources required  
action accomplished

- \*D.2 Have the Governor issue an Executive Order requiring all agencies to review existing agency regulations, the scientific basis for the regulation and identify those that have a negative impact on agriculture and forestry which are not essential to public health, safety and welfare and have agencies propose alternatives to eliminate or reduce the impact by July 1, 2005. Included in this review is also a requirement to develop a plan to provide increased training and technical assistance in the implementation of any regulation/regulatory program implemented by a State agency that impacts agriculture and forestry.

**Resources Required**  
**Performance Measure**

no additional resources required\*  
action accomplished

\* Implementation may require additional  
unknown resources at some agencies

- \*D.3 Establish an Ombudsman function for Agribusiness in the Office of the Secretary of Agriculture and Forestry to mediate regulatory disputes such as those involving environmental permitting issues and nutrient management issues, for example, between the Agriculture/Forestry industries and State agencies. Such assistance might include the usage of Alternative Dispute Resolution processes.

**Resources Required**  
**Performance Measure**

Yr.1:\$100,000	Yr.2:\$100,000
1 FTE	2 FTE
Office established and program Implemented	

\* Will require staffing and resources in new  
Secretary's Office and possibly a position  
in Virginia Liaison Office

*Longer Term/more challenging strategies*

- D.4 In the area of environmental regulation have Virginia's Environmental Agencies and the Agriculture and Forestry sectors develop partnering relationships between urban and rural areas to address environmental issues, including emphasizing to and educating urban citizens about their role and responsibility in correcting environmental issues and problems.

**Resources Required**  
**Performance Measure**

no additional resources required  
action accomplished

- \*D.5 Develop and implement a permitting process for environmental permits for agriculture and forestry operations that enables a “one stop” approach with one agency for all such permits eliminating overlapping requirements, duplication and inconsistent application.

**Resources Needed**  
**Performance Measure**

no additional resources required  
action accomplished

- D.6 Develop, implement and enforce legislation that requires localities to adhere to and implement State laws (such as the Right to Farm Law) consistently within the legislative intent of the law to prevent locally imposed mandates that adversely impact agriculture and forestry industries.

**Resources Needed**  
**Performance Measure**

no additional resources required  
action accomplished

- D.7 Develop research initiatives and innovative technologies for animal waste disposal and for the utilization of new technologies for disposal, conversion to energy and other useful products from animal wastes. Develop and implement regulatory and permitting mechanisms and provide statutory authority that will allow state agencies to approve new usages and experimental ventures in animal waste technologies.

**Resources Needed**  
**Performance Measure**

none initially  
actions accomplished

## E. Tax Reform, Incentives, and Credits

## Summary of Recommendations

- E.1 Reform Virginia's taxation system to be more reflective of today's economy and not based on a historical and outdated economy. The agriculture and forestry industries are now working towards finding a balancing approach to reform of taxation. At this time, a number of groups support:
- Elimination or reduction in real property taxes;
  - Elimination of personal property taxes on livestock and farm machinery;
  - Maintaining sales tax exemptions;
  - Eliminating estate taxes (see recommendation below);
- \*E.2 Add a goal to Governor Warner's Guiding Principles to recognize the need for a restructured tax system that enhances the viability of the agriculture and forestry industry.
- E.3 Eliminate Virginia's estate tax because of its potential for destroying agriculture or forestry businesses.
- E.4 Maintain a minimum of \$5 million general funding support for the state BMP cost share program with \$10 million additional funds added under the Water Quality Improvement Act Fund.
- E.5 Work with the forestry industry to develop tools to encourage reforestation of timberland including but not limited to the RT Program and reforestation tax credit.



# **Tax Reform, Incentives, and Credits**

## Description of Issue

Virginia's economy is more reflective of a serviced based economy versus being agrarian based. Virginia's current tax system, based on tangible assets, is antiquated, as property is no longer the single indicator of wealth. Assets of the farm may have development market value, but may, in any year, earn no income flow with which to pay taxes. Landowners will be forced off of their property if alternative tax measures are not implemented. The current tax system provides two major impediments to the viability of the agriculture and forestry industry in Virginia. The main impediments are real property taxes and estate taxes. However, as the discussions of tax reform have evolved to include a discussion of eliminating all sales tax exemptions, obviously this would be grossly unfair and have a great impact on agriculture. Therefore, several groups in the agriculture and forestry industry are reviewing the various tax reform proposals to help find a balancing act between the need for tax revenue while reducing the inequities in the current system.

Taxes are not the only financial concerns of the agriculture and forestry community. The agriculture and forestry community believe that there also ~~In addition, there~~ needs to be incentives and funding for environmental regulations and for replenishing the natural resource base. These incentives include funding for established programs with proven track records.

## Contribution to Goal

### **Real Property Taxes**

The taxation system in Virginia has long relied on real property taxes as a primary source of local revenues. The State Auditor of Public Accounts Report shows that levies assessed to real estate contributed approximately 45% of revenues in localities across Virginia for fiscal year ending June 30, 2002. Originally, real property holdings were a direct correlation to wealth; however, as the economy in Virginia and indeed the world has evolved, tangible property holdings are no longer an accurate indicator of wealth. At the same time, property is a finite and immobile resource; appreciation of property values does not keep pace with growth evident in the current economy. Utilizing this form of taxation hurts production agriculture because the land can not produce in many cases the taxes that are based on developmental sales. In the early 70's, the land use assessment program was developed whereby localities were authorized to optionally assess farm and forest land based on its agricultural value versus its fair market value. Not all localities offer land use assessment. In addition, studies have shown that even with land use assessment open farmland only requires \$0.25 to \$.80 in services for each dollar that it pays in real property taxes.

Despite its steady but relatively nominal growth, local governments continue to look to increases in property taxes (either by reassessment or by increased rates) to fund

budget needs. Even with land use assessment, farmers are still at the brink of paying more taxes than what the land can produce in income. In order to keep pace with today's economy, and to help local governments meet mandates and provide superior services to Virginia's citizens, alternative sources of revenue need to be identified and authorized.

**We need to relieve the local tax burden on farmers. This would help to reduce one of the expense side costs which will help net profitability.**

## **Estate Taxes**

Additionally, farmers and forest landowners are burdened with the pressures of paying estate taxes. A repeal of Virginia's Death Tax would help to prevent the devastation that family-owned businesses experience when forced to sell land, buildings, or equipment to generate enough capital to pay the tax. Once farm and forests disappear, those rural communities and businesses they support also suffer. Land located close to urban centers is often lost forever to development when death taxes force farm families out of business.

Virginia will be one of only a handful of states that will continue to collect a state death tax. Estates in at least 30 other states will be paying nothing after 2005. The majority of a farmer's assets are usually tied up in their land, equipment and buildings. When parents die, their daughters and sons are often forced to sell their farms piece by piece to pay this unfair tax. This will not only help farm families across the Commonwealth continue the businesses they have worked long and hard to build, but provide support for the rural communities that depend on these family-run businesses. If a farm family can not maintain the production based then it will be hard to maintain net profitability.

## **Sales Tax Exemption**

Virginia provides six agricultural and/or forestry exemptions. The exemptions generally are for purchases by farmers and those engaged in the processing of agricultural products for market. The specific exemptions are:

1. Agricultural equipment and supplies purchased by farmers for use in production for market;
2. Processing of agricultural commodities and seafood;
3. Livestock and agricultural products produced and used by farmers;
4. Machinery and supplies purchased by commercial watermen;
5. Machinery and supplies used directly in making feed for sale or resale; and,
6. Machinery and supplies used directly in the harvesting of forest products for sale and for use as a part of a product to be sold.

Generally, the sales and use tax treatment of farmers parallels the treatment of manufacturers and other businesses engaged in the production of goods for sale in that most purchases are exempt from the tax base. In principle, goods used in

production are not taxed in order to avoid multiple taxation or “pyramiding” of the tax. Thus, purchases for use in production, including agriculture, are generally excluded from the tax, but the ultimate retail sale of the product produced is generally subject to tax.

**Since the inception of the Virginia Retail Sales and Use Tax in 1966, exemptions have been provided for agricultural purchases. This policy is in line with the philosophy of not taxing inputs or products for resale.**

The last revenue impact study of the agricultural sales tax exemptions was conducted in December 1994. At that time, the Virginia Department of Taxation estimated that the revenue impact totaled approximately \$50 million.

**The sales and use taxation exemption has only brought fairness to the system of taxation by taxing at the retail level and not at the manufacturing or processing level.**

### **Best Management Practices Cost Share Program**

Virginia farmers are facing an increasing amount of pressure from state and federal agencies to take additional measures to protect and improve water quality. Farmers currently have to comply with programs such as the requirements of the local Chesapeake Bay Act ordinances, Chesapeake Bay Tributary Strategies, Coastal Zone Management Act, and Virginia Pollution Abatement Permit Regulations. Also, the TMDL program is underway to address pollution sources and create water quality restoration plans. The success of these water quality programs is ultimately driven by the implementation of BMPs. The cost of a designed BMP can range from \$3,000 to \$120,000. Because farmers have little or no control over the price received for their commodities, the cost of BMPs cannot be passed on to the consumer. Therefore, it is vital for the survival of agriculture to provide assistance for both voluntary water quality improvements and regulatory requirements.

For many years now, Virginia has had a modest cost share program used to assist farmers in implementing best management practices that improve water quality. Under this program the farmer and the Commonwealth under a set of guidelines share the cost of implementing the BMP. Current estimates show that to implement the above mentioned programs in a ten year period, over \$1 billion is needed. Alone, the Tributary Strategies is estimated at \$50.7 million and the TMDL program is estimated at \$59.3 million, not including implementation costs.

Again, since the public good is served through improved water quality, cost share assistance helps the farmer to implement water quality improvements while not forcing them out of business.

The Best Management Practices Cost Share Program has a proven track record of leveraging state and private dollars as the below chart shows:

Program Year	No. of Farmers	BMPs installed	SL reduced Tons	N reduced Lbs.	P reduced Lbs.	Total Cost \$	Cost Share \$	Other C/S \$	Farmer Cost \$
2002	1197	2974	280161	1524075	310067	11,427,963	6,032,211	851,859	4,543,893
2001	1289	6522	286097	1556368	313647	19,570,075	7,317,755	825,170	11,427,150
2000	1512	4699	434722	2364885	458697	14,583,768	8,606,121	1,126,915	4,850,732
1999	713	2246	164392	894294	167078	6,068,549	4,113,975	209,243	1,745,331
1998	742	1419	345978	1882121	411815	6,538,131	3,800,148	594,811	2,143,172
Total	5453	17860	1511350	8221743	1661304	58,188,486	29,870,210	3,607,998	24,710,278

- Program Year: is from July through June. Program Year 2002 is July 2001 through June 2002.
- No. of Farmers: is the number of farmers that completed BMPs and received cost-share during the program year.
- BMPs installed: is the number of all BMPs that were complete and cost-share paid during the Program Year.
- SL reduced Tons: is the tons of soil loss reduced based on the RUSLE calculations of “before” and “after” BMP installation conditions during the Program Year.
- N reduced Lbs.: are the pounds of nitrogen reduced by the BMPs during the Program Year.
- P reduced Lbs.: are the pounds of phosphorus reduced by the BMPs during the Program Year.
- Total Cost \$: is the total cost of all BMPs complete and received cost-share during the Program Year.
- Cost Share \$: is the amount Virginia Agricultural BMP Cost-Share Program funds expended on all completed BMPs. These funds include both state and federal funding sources. The federal funds also include funds designated for the Chesapeake Bay area only. Also, state and/or federal funds could have been carried over until the next program year if the BMP installation was not completed during that program year but the dollars were dedicated.
- Other C/S \$: is the amount of cost-share from federal sources other than the Virginia Agricultural BMP Cost-Share Program during a Program Year. These are usually federal funds such as EQUIP. These funds are restricted to specific practices.
- Farmer Cost \$: is the amount of funds farmers and landowners contributed to the installation of all completed BMPs during a Program Year.

## **Reforestation of Timber**

Farmers and landowners own approximately 11.9 million acres of the total 15.4 million acres of forestland in Virginia. Timber has a value of \$863.6 million paid to farmers and landowners. The \$863.6 million in market value of the timber crop is leveraged by the manufacturing industry for an impact of \$25.4 billion to the Commonwealth's economy. To sustain the future viability, various options should be created to maintain this natural resource based industry. Currently, the state has a Reforestation of Timberland Program (RT program) that funded jointly by the state and the industry. Forest industry pays a severance tax based on the amount of pine consumed, which is administered through the Forest Products Tax. The state was to provide an amount equivalent to the forest industry contribution through a general fund appropriation and also administers the program through the Virginia Department of Forestry. As the RT program is administered on a "cost-share" basis, the landowner provides the majority of the reforestation funds.

Currently, the program provides a 35% cost-share. There are stipulations, such as the practices must be maintained for at least 10 years.

With the current budget cycle, forest industry contributions were based on the prior biennium, which amounted to approximately \$1.1 million/year. Normally, this would also establish the General Fund appropriation at \$1.1 million/year, but with the budget situation it was agreed to fund the program at \$550,000 annually, which was the figure included in the 2002 Budget. (As this amount comes from the General Fund, the Department of Forestry could use this as part of their budget reduction goals.) Following the Governor's revenue shortfall activity last Fall, the General Fund money's were reduced even further. With the current proposed Budget, the General Fund appropriation was zeroed out.

Other tools have been identified by the forestry industry to enhance this cost share program to provide optional tools for landowners as an incentive to replant this natural resource which supplies a major economic sector in Virginia. In addition to the state restoring its portion of the funds for RT program, a tax credit that the farmer and landowner could utilize to offset the costs associated with replanting timber should be explored in more detail.

## **Recommendations**

- E.1 Reform Virginia's taxation system to be more reflective of today's economy and not based on a historical and outdated economy. While this has been studied by so many commissions over the last four years, the time has come for a proposal to be put forward now regarding changes in the tax system based on income or consumption.

More specifically, the agriculture and forestry industries are working towards finding a balancing approach to reform of taxation. At this time, a number of groups support:

- Elimination or reduction in real property taxes;
- Elimination of personal property taxes on livestock and farm machinery;
- Maintaining sales tax exemptions;
- Eliminating estate taxes (see recommendation below);

Resources required: Undetermined.

Performance Measures: Look at the tax burden of the existing system on farm and forest landowners compared to new proposals.

- \*E.2 Add a goal to Governor Warner's Guiding Principles to recognize the need for a restructured tax system that enhances the viability of the agriculture and forestry industry.

Resources required: \$0

Performance Measures: The proposal for a restructured tax system reduces or more fairly distributes the tax burden among all of the sectors of the economy as compared to the current local system of taxing real property and taxing the land value at the death of the owner.

- E.3 Eliminate Virginia's estate tax because of its potential for destroying agriculture or forestry businesses.

Resources required: In 2002, the estate tax generated \$133 million. The dollar amount attributable to farmers and forest landowners changes based on death of farm and forest landowners and their planning capabilities under the current system.

Performance Measures: The tax is eliminated.

- E.4 Maintain a minimum of \$5 million general funding support for the state BMP cost share program with \$10 million additional funds added under the Water Quality Improvement Act Fund. With \$1 billion needed over ten years to meet the current environmental requirements, even with \$15 million per year, it would take over 66 years to implement the above practices. However, the above funding request can be distributed without adding staffing or significantly adding staffing.

Resources required: \$5 million in general funding support. \$10 million from the Water Quality Improvement Act Fund.

Performance Measures: Farmers in compliance with environmental regulations and water quality improved.

- E.5 Work with the forestry industry to develop tools to encourage reforestation of timberland including but not limited to the RT Program and reforestation tax credit.

Resources required: \$1 million for the RT Program.

Performance Measures: Number of acres replanted increased.

## F. Preservation of Farm and Forestland/Facilitating Farm Transition



## Summary of Recommendations

- \*F.1 Have the Governor lead a public education initiative designed to show the importance of innovative and successful farm enterprises and protection for farm and forest lands in reaching the goal of doubling net agricultural receipts.
- \*F.2 Release the model state purchase of development rights (PDR) program being developed by the State's Farmland Preservation Task Force.
- \*F.3 Provide start-up funding for the Office of Farmland Preservation to provide for an assessment of which farmlands should be targeted for preservation; for the conduct of an intensive public education campaign on the importance of farmland preservation and for design of a process whereby state matching funds can be used in conjunction with local funds for easement purchases.
- F.4 Establish a State-level PDR Program, which would provide guidance to localities in developing their local PDR programs and state sponsored public / private matching fund program for easement purchase.
- \*F.5 Provide, within the Office of Farmland Preservation, a consistent, long term funding source to match funds in local PDR programs for easement purchases.
- \*F.6 Have the Governor lead a public education initiative (in tandem with F.1 above) to acknowledge the scope of the farm transition challenge and the importance of successfully transitioning farm enterprises in reaching the goal of doubling net agricultural receipts.
- F.7 Fund initial implementation of the Virginia FarmLink program to facilitate the transition of farm businesses from the current generation to a new generation of farmers.

# **Preservation of Farm and Forestland/Facilitating Farm Transition**

## Description of Issue

### Loss of Farmland

Like states elsewhere on the East Coast, Virginia is faced with a growing population and development patterns which resemble concentric circles around cities and towns. Many Virginians want a slice of Virginia's beautiful countryside and are willing to pay - in terms of money and lengthy commutes to have it. Such development drives up the value of farmland, making it worth too costly to farm. Because of these pressures, American Farmland Trust estimates that Virginia is losing farmland at a rate of 45,000 acres per year.

### Transition of Farm Businesses

At the same time farmland is being lost to new housing and retail centers, farm businesses are being threatened by unprofitability and by the increasing age of farm operators. Because the average age of Virginia farmers is 56 years, we estimate that 70% of the state's farmland will be transitioned to a new generation with in the next 15 years. A 2002 survey of farmers by the Virginia Agricultural Vitality Program shows that less than a third of the respondents have designated an heir to their businesses or have developed the necessary financial and estate plans to transition that business to a new generation.

This fact, when combined with the profitability challenges for the sector, means that much of Virginia farmland will likely be sold for development. While recognizing that not all farmland can be saved, continued loss of this vital physical capital at the current rate, when combined with the loss of human capital, poses a threat to the future viability of the state's entire agricultural sector.

## Contribution to the Goal

To maximize its contribution to the state's economy, the Virginia agriculture sector should be a thriving, growing sector. Promoting these conditions within the agricultural economy, will require, among other things, efforts to identify profitable farm enterprises and business organization types as well as programs/incentives to transition farm businesses and to preserve farmland.

## Recommendations (Part 1) - Preservation of Farm and Forestland

- \*F.1 Have the Governor lead a public education initiative designed to show the importance of innovative and successful farm enterprises and protection for farm and forest lands in reaching the goal of doubling net agricultural receipts. Among others, strategies would include issuance of news releases and participation in high-profile speaking engagements to agribusiness leaders, local government officials and leaders, and environmental leaders and the general public.

<b>Resources Required</b>	no additional resources required
<b>Performance Measure</b>	action accomplished

- \*F.2 Release the model state purchase of development rights (PDR) program being developed by the State's Farmland Preservation Task Force and encourage localities to develop PDR programs to parallel the model while emphasizing that such programs are only one of several tools which localities will have to use if they opt to preserve farmland.

<b>Resources Required</b>	no additional resources required
<b>Performance Measure</b>	action accomplished

- \*F.3 Provide start-up funding for the Office of Farmland Preservation to provide for an assessment of which farmlands should be targeted for preservation; for the conduct of an intensive public education campaign on the importance of farmland preservation and for design of a process whereby state matching funds can be used in conjunction with local funds for easement purchases.

<b>Resources Required</b>	Yr.1: \$88,000	Yr.2: \$88,000
	1 FTE	1FTE
<b>Performance Measure</b>	program designed; campaign launched	

- F.4 Establish a State-level PDR Program, which would provide guidance to localities in developing their local PDR programs and state sponsored public / private matching fund program for easement purchase. (Legislative action required.)

<b>Resources Required</b>	no additional resources required
<b>Performance Measure</b>	legislation enacted

- F.5 Provide, within the Office of Farmland Preservation, a consistent, long term funding source to match funds in local PDR programs for easement purchases.

<b>Resources Required</b>	Yr.1: \$10 million	Yr. 2: \$15 million
	3 FTE	3FTE
<b>Performance Measure</b>	number/value of easements purchased	

## **Recommendations –(Part 2) Preservation of Human Capital and Facilitating Farm Business Transition**

- F.6 Have the Governor lead a public education initiative (in tandem with F.1 above) to acknowledge the scope of the farm transition challenge and the importance of successfully transitioning farm enterprises in reaching the goal of doubling net ag receipts.

**Resources Required**  
**Performance Measure**

no additional resources required  
action accomplished

- F.7 Fund initial implementation of Virginia FarmLink to allow (among other things):

- maintenance of a data base of beginning farmers and farmers interested in forming partnerships to continue their businesses
- employment of staff which would:
  - begin development of, (with VA Cooperative Extension and other agencies) an intensive education campaign to alert farmers to the need for transition planning and how to do it;
  - implement the information program/education campaign;
  - develop and maintain a database, on a regional basis, of the private sector experts required in farm transition, such as attorneys, estate planners, mediators and family counselors, among others;
  - provide general guidance to farm businesses in transition;
  - support for the development of a private sector information exchange to connect beginning farmers needing land with people having land to lease.

**Resources Required**

Yr.1: \$125,000      Yr.2: \$125,000  
1 FTE                      1FTE

**Performance Measure**

program initiated; databases launched  
links made

**VI. Members and Staff: Governor's Agriculture Net Receipts Work Group**

## **VI. Members of the Governor's Doubling Ag Net Receipts Work Group**

Bill Tucker  
Johnny Hardesty  
Matt Erskine  
Martha Moore  
Donna Pugh Johnson  
John Burke  
Terry Sharrer  
Dale Gardner  
Wayne Purcell  
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